

**COMMENTS ON EPA
HAZARD RANKING SYSTEM DOCUMENTATION RECORD
BRANDYWINE DEFENSE REUTILIZATION AND MARKETING OFFICE
(DRMO)**

SUBMITTED TO USEPA BY THE UNITED STATES AIR FORCE

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LIST OF ACRONYMS AND ABBREVIATIONS

AAFB	Andrews Air Force Base
AST	Above-ground storage tank
CFR	Code of Federal Regulations
DDD	4,4'-dichlorodiphenyldichloroethane
DDE	4,4'-dichlorodiphenyldichloroethylene
DDT	Dichlorodiphenyltrichloroethane
DL	Detection limit
DPDO	Defense Property Disposal Office (also referred to as DRMO)
DRMO	Defense Reutilization and Marketing Office (also referred to as DPDO)
EPA	Environmental Protection Agency
ft ²	Square feet
HI	Hazard Index
HRS	Hazard Ranking System
HWQ	Hazardous Waste Quantity
LOR	Likelihood of Release
MCL	Maximum contaminant level
MDE	Maryland Department of the Environment
MEK	Methyl ethyl ketone
mg/kg	Milligrams per kilogram
NOS	Naval Ordnance Station
NPL	National Priorities List
NWI	National Wetlands Inventory
PCBs	Polychlorinated byphenyls
PCE	Perchloroethylene, also called Tetrachloroethene
PCF	Potential Contamination Factor
PGCHD	Prince George's County Health Department
ppb	Parts per billion
PPE	Probable point of entry
ppm	Parts per million
RR	Railroad
SVOC	Semivolatile organic compounds
SWOFMC	Surface Water Overland/Flood Migration Component
T/P/B	Toxicity/Persistence/Bioaccumulation
TCE	Trichloroethene
TDL	Target distance limit
µg/L	Micrograms per liter
USACOE	United States Army Corps of Engineers
USGS	United States Geological Service
UST	Under-ground storage tank
VOC	Volatile organic compounds
WC	Waste Characterization
1,1,1-TCA	1,1,1-trichloroethane
1,1-DCE	1,1-dichloroethene
1,2-DCE	1,2-dichloroethene
1,4-DCB	1,4-dichlorobenzene

SECTION 1.0
INTRODUCTION

Brandywine Defense Reutilization and Marketing Office Hazard Ranking Score Review

Introduction

On July 28, 1998 the United States Environmental Protection Agency (EPA) proposed the Brandywine Defense Reutilization and Marketing Office (DRMO) for listing onto the National Priorities List (NPL). The EPA proposal allowed for a 60-day public comment period. During the public comment period the United States Air Force, Headquarters Air Mobility Command performed an independent review of the DRMO Hazard Ranking System (HRS) Documentation Record. During that review, it was necessary to request a time extension. The EPA granted a two-week extension for the Air Force to provide comments for reasons stated in a 15 Sep 1998 EPA letter attached in Appendix G.

As part of its historical efforts to address the contamination at Brandywine DRMO and the adjacent property, the Air Force sampled thirteen private wells in the vicinity. Only one of the wells showed evidence of contamination. Immediately, the Air Force supplied first bottled water to the residence whose well was contaminated and shortly thereafter provided a connection to a public water supply. This non-permitted well is no longer in use. Andrews Air Force Base has continued to monitor the groundwater near the DRMO and has installed a groundwater treatment system which has been ready to operate for two years now pending approval of the Maryland Department of Environment (MDE).

In addition, the Air Force conducted three Polychlorinated biphenyl (PCB) removal actions at Brandywine DRMO. In 1987, after a spill from an overturned transformer while in transit, approximately 300 cubic yards of PCB-contaminated soils were cleaned up from the areas immediately adjacent to the DRMO site. In 1989, after a fire completely destroyed all the facilities on DRMO, an additional 3100 cubic yards of PCB-contaminated soils were removed in the immediate area where transformers were stored. During the cleanup operations after the fire, soils were spread across the site. Before performing a final PCB removal action across DRMO, acceptable PCB concentrations (25 ppm for industrial use and 10 ppm for unrestricted use) were established in 1989 through meetings with the regulatory agencies (Brandywine DRMO HRS Documentation Record Ref. 25, p. 2, and HRS Documentation Record Ref. 7, p. ES-1 and p. 3-15). The Air Force chose to remove PCB contaminated soil to meet unrestricted use criteria. Subsequently, with completion in 1994, the final removal action resulted in removal of approximately 13,400 cubic yards of PCB contaminated soil. The Air Force acted in good faith to meet these cleanup criteria which apply specifically to the PCB isomer Aroclor 1260, which is the only PCB isomer present in the soils. In total, the Air Force has spent approximately 6.3 million dollars remediating Brandywine DRMO, of which approximately 5 million dollars were spent on PCB remediation alone.

Our rescore of the HRS Documentation Record, which includes the area affected by a release of PCBs from the Brandywine DRMO, is 17.78, well under the 28.5 threshold for NPL consideration (see Appendix B).

It should be noted that the HRS Documentation Record for the Brandywine DRMO was reviewed to determine if present conditions at the site pose a threat or potential threat to the

environment, regardless of whether the site quantifies for the NPL. Through evaluating the HRS Documentation Record for Brandywine DRMO, it was recognized that residual PCB concentrations could present a potential threat to the environment. Furthermore, review of regulatory documents indicates that **current** PCB cleanup criteria are more stringent for unrestricted land use than criteria developed and used in 1989 (Brandywine DRMO HRS Documentation Record, Ref. 25, p. 2, and HRS Documentation Record, Ref. 7, pp. ES-1 and 3-15). For instance, EPA Region III Risk Based Concentrations for Aroclor 1260 are currently 2.9 milligrams per kilogram (mg/kg) for industrial use and 0.32 mg/kg for residential use. With this in mind, and given the Air Force's history of prudent management of environmental problems at this site (e.g., removal conducted in accordance with criteria that were acceptable to the agencies in 1989), the Air Force is committed to protecting the environment from residual PCBs in the soils both on-and off-site of Brandywine DRMO. Appendix F shows a list of sites in Maryland's Voluntary Cleanup program, both industrial and governmental, ranging in size from 1 to 130 acres. The half-acre of soil, in which residual PCB contaminated soil may remain, near the DRMO is a relatively easy PCB cleanup, and thus, would fit well within the Voluntary Cleanup program.

The following sections present the purpose, summary, and results of our review. To facilitate EPA's review, Appendix A contains our point-by-point comments in response to the HRS Documentation Record. As stated in Appendix A, some statements in the HRS Documentation Record could not be substantiated by the references cited by EPA; whereas, other statements could be supported, but not by the references cited in EPA's HRS Documentation. Appendix B provides our HRS score for Brandywine DRMO in the same format used by EPA. All statements are substantiated and clearly documented in Appendix C.

SECTION 2.0
SUMMARY OF REVIEW

Summary of Review

The HRS evaluates four potential pathways of contamination related to the release or threat of release from a facility: groundwater, surface water, soil exposure, and air. The Brandywine DRMO, the area adjacent to the DRMO, and the groundwater were evaluated by EPA using data provided by Andrews Air Force Base (AAFB). The EPA decided not to evaluate soil exposure and air migration pathways "...because they do not contribute significantly to the overall site score", as reported in the HRS Documentation Record. The Brandywine DRMO was scored based on the measurable releases of polychlorinated biphenyls (PCBs) to DRMO soils and conveyed to property adjacent to the DRMO by surface runoff. Chlorinated hydrocarbons, represented by trichloroethene (TCE) and total 1,2-dichloroethene (DCE) measured in the groundwater, were conveyed to a non-permitted, residential well through the groundwater pathway and also contributed to the overall site score.

The driving factors for the HRS score calculated by EPA in the surface water pathway are toxicity and persistence related to the characteristics of PCBs. A value of 100 was calculated based on the environmental threat of an observed release of the PCB isomer Aroclor 1260 conveyed by runoff to a location (drainage ditch) adjacent to railroad tracks near the DRMO. The EPA reports the area north of the DRMO and the area between Cherry Tree Crossing Road and the railroad tracks as wetlands (sensitive environment) and their associated ditches as surface water bodies. Reassessment of these issues shows that EPA's determination is not correct. The National Wetland Inventory (NWI) map (Brandywine DRMO Documentation Record, Ref. 29), the Code of Federal Regulations (40 CFR 230.3), HRS Final Rule, p. 51605, and Hazard Ranking System Guidance Manual, pp. A-20 and A-29 (PB92-963377, EPA540-R-92-026, November, 1992) were thoroughly reviewed to determine the definitions of "wetland" and "surface water body" for HRS scoring purposes. Additionally, a site visit was conducted (September 1998) to visually inspect the area reported as a wetland. Based on this site inspection, the United States Army Corp of Engineers (USACOE) was able to confirm that the areas where samples were cited by EPA and where samples were collected by the USGS north of the DRMO are not wetlands. The USACOE's determination of wetland is based upon an inspection of the wetlands designated by the NWI map (HRS Documentation Record, Ref. 29) and surrounding vicinity and shows that samples collected adjacent to the west end of the culvert (HRS Documentation Record, Ref. 4, p. 28) were not collected in a wetland. (See USACOE Jurisdictional Determination of Wetland, Appendix E).

Careful review of the above-cited documents reveals that the areas from which samples were collected for use in scoring the Brandywine DRMO do not qualify as wetlands. As such, they are not considered sensitive environments in the HRS score. The Surface Water/Overland Flood Migration (SWOFM) Pathway value is recalculated as 34.697.

A value of 7.81 was calculated by EPA for groundwater contamination in an existing water supply well that is not permitted and not in use. It is recognized that an observed release to the groundwater pathway has occurred. The total HRS score based on the sum of the surface water migration pathway and groundwater pathway values, using the root mean square equation (HRS Documentation Record for Brandywine DRMO, p. 4, lines 5 and 6), is 17.78. The revised HRS score is below the 28.5 threshold score required to place a site on the NPL.

The following factors contributed to the high score in the SWOFM pathway as originally calculated by EPA:

1. When evaluating the SWOFM pathway, the site was evaluated by EPA as having an “observed release” to surface water (HRS Documentation Record, p. 61).

Further evaluation shows that no “observed release” to “surface water” occurred. By HRS definition, the waters in the drainage ditches are not surface water bodies (HRS Documentation Record, Ref. 1, p. 51605, and HRS Guidance Manual, Nov. 1992, p. 204) and the ditches are not wetlands. These facts affect the likelihood of release (LOR) and waste characteristics (WC) factors. The LOR factor decreases from EPA’s assigned value of 550 to 500, and the WC factors decrease from 32 to 10 for the Drinking Water Threat Score and from 320 to 100 for the Human Food Chain Threat and Environmental Threat Score.

2. When evaluating the “targets” component of the Environmental Threat Score, a value of 276.75 was calculated by the EPA. This value is based on two “surface water” and sediment samples collected by USGS in 1990 (HRS Documentation Record Ref. 4) showing Level I concentrations within a “wetland (sensitive environment)”.

Samples referenced by EPA were not collected from wetlands. Recent (September 28, 1998) USACOE wetland determination, based upon an inspection of the wetlands designated by the NWI map (HRS Documentation Record, Ref. 29) and surrounding vicinity, shows that samples collected adjacent to the west end of the culvert (HRS Documentation Record, Ref. 4, p. 28) were not collected in a wetland (see USACOE Jurisdictional Determination of Wetland, Appendix E). The sediment and surface water samples collected by USGS were collected from a drainage ditch (HRS Documentation Record, Ref. 4, p. 4-28) that drains water from the east side of Cherry Tree Crossing Road to the west side of the road. There is no evidence that the surface water samples were collected from the wetlands. Furthermore, the water samples that were collected from the east drainage ditch were not from a wetland as defined by the HRS Final Rule (HRS Documentation Record, Ref. 1) and verified by the USACOE. Based on this determination, no Level I concentrations have been observed in a wetland. There is, however, the potential to release to a sensitive environment because the area to the west of Cherry Tree Crossing Road qualifies as a wetland as defined in the HRS Final Rule. This potential to release is reflected in the rescore value. The combination of the above factors reduces the targets' value to 36.75.

These factors, along with other evaluations of the HRS Documentation Record for Brandywine DRMO, are itemized in Appendix C, where the justification for the site rescoring is provided.

APPENDIX A

BRANDYWINE DRMO HRS DOCUMENTATION RECORD COMMENTS

APPENDIX A

COMMENTS

APPENDIX FORMAT AND STYLE

1. The format follows numerical index presented by EPA in the HRS Documentation Record for the Brandywine DRMO.
2. Statements made by EPA are in italics.
3. Air Force comments follow the quoted EPA statements. There are two types of comments: corrections and clarifications. “Corrections” rectify erroneous statements and/or misquoted references. “Clarifications” provide additional support to statements made in the HRS Documentation Record that were taken out of context from the reference documents used preparing the Record. These clarifications and corrections reflect an impartial attempt to increase the accuracy of the HRS Documentation Record for Brandywine DRMO.

POINT-BY-POINT COMMENTS

HRS Heading: INTRODUCTION

1. **HRS Statement:** Page 14, Para.2 – *“From about 1955 until 1988, the DRMO facility was used principally as a storage area for surplus electrical equipment and other materials and for hazardous wastes (Ref. 3, pp.4-25 and 4-28, Ref. 25).”*
Correction: Reference 3, p. 24 states that hazardous waste storage stopped in 1980. Reference 25 refers to PCB storage continuing beyond 1980.
2. **HRS Statement:** Page 14, Para.3 – *“Those wastes include: polyethylene glycol; methyl ethyl ketone (MEK); toluene; 1,1,1,-trichloroethane (1,1,1-TCA); generic solvents; paint wastes; paint strippers, removers, and thinners; PD-680 solvent; ethylene glycol; JP-4 and JP-5 jet fuel; waste oil; hydraulic fluid; alcohol; naphtha; carbon remover; developer; penetrant; acids; petroleum sulfonate; trichlorotrifluoroethane; and polychlorinated biphenyls (PCB) capacitors (Ref. 3, pp. 4-5 through 4-21).”*
Correction: Reference 3 makes no mention of PCB capacitors being stored on site.
3. **HRS Statement:** Page 14, Introduction, Para.3 – *“In addition, thousands of pounds of oil and debris contaminated with PCBs were stored in drums on the facility, and concrete bins at the facility were used to store capacitors and transformers that contained oil contaminated with PCBs (Ref. 5, p.1-5; Ref. 7, p.1-1).”*
Correction: These references make no mention that “thousands of pounds of oil and debris contaminated with PCBs were stored in drums on the facility, and concrete bins at the facility were used to store capacitors and transformers that contained oil contaminated with PCBs”.

HRS Heading: 2.2 Source Characterization (Source 1 – Contaminated Soils)

4. **HRS Statement:** Page 15, Para.2 – “Concentrations of PCBs in soil ranged from 1 to 2,300 milligrams per kilogram (mg/kg) (Ref. 7, p.1-3).”

Correction: The majority of the samples were in the 25-200 mg/kg range (HRS Documentation Record, Ref. 7, p. 1-3). Reporting just the upper and lower limits detected in the samples is misleading with regard to the magnitude of the PCB contamination.

5. **HRS Statement:** Page 15, Para.2 – “Investigations have confirmed the presence of lead, cadmium, toxaphene, 4,4'-dichlorodiphenyldichloroethane (DDD), 4,4'-dichlorodiphenyldichloroethylene (DDE), 4,4'-dichlorodiphenyltrichloroethane (DDT), chlordane, aldrin, semivolatile organic compounds (SVOC) and dioxin in soils at the facility (Ref. 7, pp. 1-3, 3-15 through 3-21).”

Clarification: The above references mention that “only low concentrations, below regulatory levels, of VOCs, SVOCs and metals were detected (HRS Documentation Record, Ref. 7, p. 1-3).” Simply stating that these compounds are present provides a false impression of the seriousness of the VOC, SVOC, and metals contamination. Further citations (HRS Documentation Record, Ref. 7, p. 3-18) confirm the presence of low concentrations of metals, VOCs, and SVOCs.

6. **HRS Statement:** Page 16, Para.1 – “However, as documented in section 4.0 of this report, a release of hazardous substances from Source 1 to the surface water migration pathway has occurred. Under EPA’s revised removal policy, removals are not considered when all releases have not been removed (Ref. 44, p. 2). Additionally, all PCB contaminated soil was not removed from the facility. Concentrations of less than 10 parts per million (ppm) remain (7, pp. ES-3, 3-5, 3-6, 3-15, and 3-16). Therefore, EPA will not consider this removal action a qualifying removal. Therefore, the quantity of PCB-contaminated soils removed is counted in the calculations of the hazardous waste quantity of the source.”

Correction: The EPA states (HRS Documentation Record, Ref. 49, p. 2) that if all releases have been dealt with such that hazardous substances are not present at potentially harmful levels, the removal can be considered complete. An agreement with the EPA and MDE (HRS Documentation Record, Ref. 25) specifies that a residual concentration of 10 ppm of PCB in soil at the facility is sufficient to meet unrestricted use of the soil. Unrestricted use indicates that residual contaminant concentrations are not potentially harmful. Therefore, no hazardous waste quantity should be calculated for PCBs based on the removal action meeting the 10 ppm criteria. As detailed in Appendix C of this document, there has been no release to the surface water/overland flood migration pathway.

HRS Heading: 2.2 Source Characterization (Source 2 –Unallocated Source – Groundwater Plume)

7. **HRS Statement:** Page 21, Para.1 – “The source of the plume is likely to be hazardous waste stored and disposed of on the facility (Ref. 5, pp. 2-4, 2-5, 4-11, 4-12, 4-14, 4-15, 4-16, and 4-17).”

Clarification: Reference 5 states that contamination is probably a result of spills or leakage rather than intentional disposal.

8. **HRS Statement:** Page 21, Para.1 – “*The Brandywine DRMO facility (also known as DPDO Storage Area and Brandywine DPDO) received and stored hazardous waste from approximately 1955 until 1988 (Ref. 3, pp.4-25 and 4-28 and Appendix E, pp. E-2 through E-15; Ref.5 p. 1-5).*”
Correction: Both Reference 3, p. 24 and Reference 5, p. 1-5 state that hazardous waste storage stopped in 1980.
9. **HRS Statement:** Page 21, Para.1 – “*The wastes were stored in three warehouses, three ASTs, three USTs, and drums.*”
Correction: Although waste solvents were stored in drums, there is no reference cited indicating that waste was stored in the warehouses, ASTs or USTs. According to records, it appears that the USTs were used to store #2 heating oil (HRS Documentation Record, Ref. 5, p.1-6).
10. **HRS Statement:** Page 24, Para.1 – “*However, the contamination with tetrachloroethene (PCE) may have been caused by a release at an off-site location (Ref. 28, p. 1-22).*”
Correction: This reference says that the source of the contamination is unknown, not that it may be the result of a release at an off-site location.
11. **HRS Statement:** Page 24, Para.1 – “*On the basis of the vertical and horizontal delineation (at 15 feet and 25 feet) of the TCE plume, the volume of contaminated ground water is calculated to be approximately 17 million gallons (Ref. 5, p. 5-2).*”
Correction: Reference 5, page 5-2 does not provide an estimated quantity of contaminated groundwater.
12. **HRS Statement:** Page 24, Para.2 – “*As a result of the PCB contamination at the facility and in response to the concerns of local citizens, MDE sampled numerous residential wells in the area beginning in 1986 (Ref. 6, pp. 1 through 12).*”
Correction: Reference 6 documents only one well sample being collected. The remainder of the collected samples are soil matrix not water. Furthermore, the water sample was collected in May 1987.
13. **HRS Statement:** Page 24, Para.2 – “*After one residential well was found to be contaminated with TCE and 1,4-DCE, AAFB assigned USGS to conduct a ground water investigation (Ref. 4, p. 1-3; Ref. 25, p. 2; Ref. 26).*”
Correction: The results from this analysis indicate that only 1,2-DCE and TCE were found. The compound 1,4-DCE, as stated in the HRS Documentation Record, does not exist.
14. **HRS Statement:** Page 24, Para.2 – “*Split-sampling of monitoring and residential wells by PGCDH also revealed the presence of cis-1,2-DCE; 1,1-DCE; 1,1-dichloropropene; 1,2,3-trimethylbenzene; 1,3,5-trimethylbenzene; 1,1,2-trichloroethane; and 1,1,2,2-tetrachloroethane (Ref. 6, pp. 13 through 17).*”
Correction: Reference 6 documents only one well sample being collected. The remainder of the samples are soil samples, not water samples. In this one water sample, only 1,2-DCE and TCE were detected. Compounds 1,1-DCE; 1,1-dichloropropene; 1,2,3-

trimethylbenzene; 1,3,5-trimethylbenzene; 1,1,2-trichloroethane; and 1,1,2,2-tetrachloroethane were not detected in this sample.

15. **HRS Statement:** Page 24, Para.3 – *“Because of the elevated concentrations of TCE and 1,2-DCE in the ground water, one residence was connected to a public water supply (Ref. 8; Ref. 23).”*

Clarification: The concentration of TCE was detected in a non-permitted well at 5.3 ppb, barely above the 5 ppb MCL established for safe drinking water. The sentence in the document is misleading without this clarification. In addition, 1,2-DCE was reported as below its 100 ppb MCL (HRS Documentation Record, Ref. 4, p. 4-7).

HRS Heading: 2.4.1 Hazardous Substances

16. **HRS Statement:** Page 26, Para.1 – *“The hazardous substances detected in the ground water plume at concentrations that exceeded three times the background concentration and attributable to the facility, as documented in Section 3.1 of this report, are: acenaphthene; 1,4-DCB; 1,2-DCE (cis and trans); MEK; naphthalene; 1,1,1-TCA; and TCE.”*

Correction: The compound 1,1,1-TCA has not been detected at three times the background concentrations for reporting as required by the HRS (HRS Documentation Record, Ref. 1). Table 6 (pp. 40 and 41) of the HRS Documentation Record for Brandywine DRMO lists the lowest detection limits for 1,1,1-TCA as 5 µg/L. However the maximum concentration of this contaminant observed in the monitoring and residential wells (HRS Documentation Record for Brandywine DRMO, Table 8, p. 45) is 1.8 µg/L. This is less than 3 times the background concentrations established in Table 6 of the HRS Documentation Record.

17. **HRS Statement:** Page 26, Para.1 – *“The hazardous substances include, but are not limited to, acetone; MEK; toluene; TCE; 1,1,1-TCA; generic solvents; paint wastes; paint strippers, removers, and thinners; PD-680 solvent; waste oil; pesticides; and oil and debris contaminated with PCBs (Ref. 3, pp. 4-5 through 4-21 and Appendix E. pp. E-2 through E-15; Ref. 21; Ref. 22, pp. 6-10 and 6-13).”*

Correction: “Oil and debris contaminated with PCBs” are not cited in these references. There is evidence that these wastes were stored at Naval Ordnance Station (NOS) Indian Head, MD (HRS Documentation Record, Ref. 22. p. 6-13), and although solvent waste from this facility was disposed of through the DPDO (HRS Documentation Record, Ref. 22, pp. 6-10 and 6-13), there is no evidence in the cited references that “oil and debris contaminated with PCBs” were shipped from the NOS to the DPDO (i.e., DRMO). The reference cited (HRS Documentation Record, Ref. 22, p. 6-13) states that PCB contaminated fluid “will be stored indefinitely (at NOS) until a proper EPA disposal method is approved.”

HRS Heading: 3.1.1 Observed Release

18. **HRS Statement:** Page 34, Para. 2 – *“In 1987, the Prince George’s County Health Department (PGCHD) collected samples from residential wells in the area surrounding the Brandywine DRMO (Ref. 6, pp. 1 through 12).”*

Correction: Reference 6 documents only one well sample being collected. The remainder of the samples are soil, not water.

19. **HRS Statement:** Page 34, Para. 2 – “Both the samples from residential wells and from ground water at the facility were collected from the shallow aquifer, Brandywine Formation (Ref. 6, pp. 6, 7, 9, and 12; Ref. 32).”
Correction: Only one residential well was sampled according to this reference. Furthermore, Reference 32 (as cited to support this statement) provides no support to this statement.
20. **HRS Statement:** Page 34, Para. 3 – “The USGS collected well samples from residential wells screened in the Brandywine Aquifer (Ref. 4, pp. 4-16 through 4-22; Ref. 32).”
Correction: Reference 32 provides no support to this statement and should not be cited.
21. **HRS Statement:** Page 34, Para. 3 – “A review of groundwater contour maps in Reference 5, pages 3-8 through 3-10 and Reference 28, page 1-24 indicates that residential well DP1-13 is a background well.”
Correction: Reference 28, page 1-24 is not a contour map and does not show the location of well DP1-13. Furthermore, neither Reference 28 nor Reference 5 identifies DP1-13 as a background well.
22. **HRS Statement:** Page 34, Para. 3 – “The contour maps indicate that groundwater flows radially from the facility PGCHD indicated that DP1-13 (DPDO-13) is a background well (Ref. 32).”
Correction: Reference 32 provides no support to this statement and should be removed.
23. **HRS Statement:** Page 34, Para. 3 – “Further, the well is located in the same shallow aquifer as the release wells, was sampled on the same dates as those wells, and was collected and analyzed by the same agency or company (Ref. 32; Ref. 4, pp. 4-7, 4-8, 4-16 and 4-17).”
Correction: Reference 32 provides no support to this statement and should not be cited.
24. **HRS Statement:** Page 37, Para. 2 – “Monitoring well DP-01 is also a background well, according to the ground water contour maps in Reference 5, pages 3-8 through 3-10. DP-01 is located in the shallow aquifer (Ref. 4, p. 3-2) was sampled on the same dates as those wells, and was collected and analyzed by the same agency or company (Ref. 32; 4, pp. 3-2, 4-7, 4-8, 4-16, and 4-17).”
Correction: Reference 32 provides no support to this statement and should not be cited.
25. **HRS Statement:** Page 47, list of Hazardous Substances Released –specifically 1,1,1-TCA.
Correction: For 1,1,1-TCA, the background sample detection limit was 5.0 µg/L; however, the highest concentration of 1,1,1-TCA found in a non-background sample was 1.8 µg/L. Therefore, 1,1,1-TCA should not be listed as a released substance at this site, because it is below three times the background sample detection limit established in Table 6 of the HRS Documentation Record.

HRS Heading: 3.3 Targets

26. **HRS Statement:** Page 50, Para. 3 – “Within the four-mile target distance limit, only residential wells draw water from the Brandywine Formation (shallow aquifer) (Ref. 3, pp. 3-14, 3-23, and 3-30; Ref. 11; Ref. 32).”

Correction: Reference 32 provides no support to this statement and should not be cited.

27. **HRS Statement:** Page 51, Note “c” – *“Because of uncertainty about the screened depths of other wells listed in Ref. 27, only the hand-dug wells were considered to be screened in the Brandywine Formation (Ref. 27, pp. 7 and 8; Ref. 32).”*

Correction: Reference 32 provides no support to this statement and should not be cited.

HRS Heading: 3.3.1 Nearest Well

28. **HRS Statement:** Page 52, Para. 1 – *“A residential well is located approximately 1,000 feet west of the facility (Ref. 4, pp. 3-5, 4-7 and 4-9; Ref. 31, p. 3; Ref. 6, pp. 1 through 6; Ref. 8; Ref. 23).”*

Correction: Reference 31 is a 1-page document; however the citation references page 3 of this document. In addition, Reference 6, pages 1-6 provides no support to the statement made in the HRS Documentation Record.

HRS Heading: 4.1.1.1 Definition of Hazardous Substance Migration Path for Overland/Flood Component

29. **HRS Statement:** Page 58, Para. 3 – *“The water in the drainage ditches and culverts appears to be perennial (Ref. 48, pp.3 and A-1 through A-12).”*

Clarification: The surface water discharge point from the culvert under Cherry Tree Crossing Road is characterized as a small intermittent stream (HRS Documentation Record, Ref. 5, p. 3-1).

HRS Heading: 4.1.2.1 Likelihood of Release

30. **HRS Statement:** Page 61, Para. 3 – *“PCBs were detected in soil samples collected throughout the facility (Ref. 7, p. 3-5).”*

Clarification: The reference cited states that, where PCBs were detected, the contaminated soil was removed (excavated) until concentrations less than 10 ppm (MDE action level for PCBs) were achieved.

31. **HRS Statement:** Page 61, Para. 3 – *“Surface water runoff from the areas of PCB contaminated soil flowed directly to the drainage ditches 1 and 2 (4, p. 4-32 and 4-33).”*

Correction: The reference cited makes no mention of surface water runoff flowing directly to drainage ditches 1 and 2. It is possible that runoff flowed to the ditch north of the site (ditch 2), but not directly to ditch 1 because of the elevated railroad tracks to the west of the site.

32. **HRS Statement:** Page 62, Para.1 – *“Documentation of observed releases of PCBs to surface water is based on the results of analyses of surface-water samples collected from wetlands north and west of the facility (Ref. 4, pp. 4-28, 4-29, and A-200 through A-203; Ref. 53; Ref. 31).”*

Correction: Reference 53 is cited to support this statement; however there is no Reference 53 listed in the reference section of the Documentation Record. Furthermore, Reference 31 is also cited to support this statement; however, Reference 31 provides no support to this statement and should not be cited. In addition, as discussed in Appendix C of this document, there has been no release to a surface water body as defined by the HRS Final Rule. The

HRS rule classifies surface water into four categories: rivers, lakes, oceans and coastal tidal waters (HRS Documentation Record, Ref. 1, p. 51605). Water observed in drainage ditches does not fall into the categories of lakes, oceans, and coastal tidal waters. However “rivers” include “man-made ditches only insofar as they perennially flow into other surface water” (HRS Documentation Record, Ref. 1, p. 51605). The HRS Guidance Manual defines the term “perennial water body” as one that “contains water throughout the year under normal conditions (but that) under extreme conditions (e.g., severe drought) some water bodies considered perennial may not contain water” (HRS Guidance Manual, p. 204). The surface water discharge point from the culvert under Cherry Tree Crossing Road was characterized as an intermittent stream (HRS Documentation Record, Ref. 5, p. 3-1), and during visual observations made over the summer of 1998 the ditches were dry. Therefore, the water in these ditches should not be considered perennial. Based on this information, the drainage ditches are not surface water bodies as defined in the HRS rule.

33. **HRS Statement:** Page 62, Para. 2 –*“Also, surface water runoff from areas of PCB contaminated soil flowed directly to drainage ditches 1 and 2 (4, pp. 4-32 and 4-33).”*
Correction: The reference cited makes no mention of surface water runoff flowing directly to drainage ditches 1 and 2. It is possible that runoff flowed to the ditch north of the site (ditch 1), but not directly to ditch 2 because of the elevated railroad tracks to the west of the site.

HRS Heading: 4.1.2.1.1 Observed Release

34. **HRS Statement:** Page 63, Para.1 –*“In addition, oil and debris contaminated with PCBs were stored in drums at the facility, and concrete bins on site were used to store compactors (sic) and transformers that contained oil contaminated with PCBs (Ref. 5, p. 1-5; Ref. 7, p. 1-1).”*
Correction: Neither reference cited states that oil and debris contaminated with PCBs were stored in drums at the facility. Furthermore, there is no evidence that compactors containing oil contaminated with PCBs were ever stored on site. Reference 5, p. 1-5, states that “...drums of waste solvents were stored at the DRMO...”.

HRS Heading: 4.1.2.2 Waste Characteristics

35. **HRS Statement:** Page 66, Table –*The Source HWQ for Source Number 1 is given as 9.31.*
Correction: The HWQ value calculated on Page 19, section 2.4.2.1.4, is 8.98, rather than 9.31.
36. **HRS Statement:** Page 66, Para. 1 –*“Because of the presence of a Level I sensitive environment, as documented in Section 4.1.4.3, the HWQFV is 100 (Ref. 1, 51592).”*
Clarification: The use of the term “Level I sensitive environment” is misleading. Section 4.1.4.3.1.1. states that “No sensitive environments are subject to Level I concentrations” (p. 81, Para. 1). There is no term in the HRS Final Rule that defines “Level I sensitive environment”.

HRS Heading: 4.1.3.2.2 Hazardous Waste Quantity

37. **HRS Statement:** Page 70, Para.1 –*“Because of the presence of a Level I sensitive environment, as documented in Section 4.1.4.3, the HWQFV is 100 (Ref. 1, 51592).”*

Clarification: The use of the term “Level I sensitive environment” is misleading. Section 4.1.4.3.1.1. states that “No sensitive environments are subject to Level I concentrations” (p.81, Para.1). There is no term in the HRS Final Rule that defines “Level I sensitive environment”.

HRS Heading: 4.1.4.2.2 Hazardous Waste Quantity

38. **HRS Statement:** Page 79, Para.1 – “*Because of the presence of a Level I sensitive environment, as documented in Section 4.1.4.3, the HWQFV is 100 (Ref. 1, 51592).*”

Clarification: The use of the term “Level I sensitive environment” is misleading. Section 4.1.4.3.1.1. states that “No sensitive environments are subject to Level I concentrations” (p. 81, Para. 1). There is no term in the HRS Final Rule that defines “Level I sensitive environment”.

HRS Heading: 4.1.4.3.1.1 Level I Concentrations

39. **HRS Statement:** Page 81, Para.1 – “*No sensitive environments are subject to Level I concentrations.*”

Correction: The Hazard Ranking System Guidance Manual, Section 8.14, p. 317 (November 1992), states that “Sensitive environments include...wetlands as defined in 40 CFR 230.3.” Throughout Section 4, the terms “sensitive environment” and “wetlands” are used independent of each other, causing confusion. There is no term in the HRS Final Rule that defines “Level I sensitive environment”.

APPENDIX B
SCORESHEETS

WORKSHEET FOR COMPUTING HRS SITE SCORE

	<u>S</u>	<u>S²</u>
1. Groundwater Migration Pathway Score (S _{gw}) (from HRS Documentation Record Table 3-1, line 13)	7.81	61.00
2a. Surface Water Overland/Flood Migration Component (from Table 4-1, line 30)	34.697	1203.88
2b. Groundwater to Surface Water Migration Component (from Table 4-25, line 28)	NE ^a	--
2c. Surface Water Migration Pathway Score (S _{sw}) (Enter the larger of lines 2a and 2b as the pathway score.)	34.697	1203.88
3. Soil Exposure Pathway Score (S _s) (from Table 5-1, line 22)	NE	--
4. Air Migration Pathway Score (S _a) (from Table 6-1, line 12)	NE	--
5. Total of $S_{gw}^2 + S_{sw}^2 + S_s^2 + S_a^2$	--	1264.88
6. HRS Site Score Divide the value on line 5 by 4 and take the square root	--	17.78

Note: ^a NE = Not evaluated

Table 4-1
SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET

Factor Categories and Factors		Appendix C*	Maximum Value	Value Assigned in HRS Document Record	Value of Re-score
Drinking Water Threat					
<u>Likelihood of Release</u>					
1.	Observed Release	p. 27	550	550	0
2.	Potential to Release by Overland Flow				
2a.	Containment	p. 27	10	---	10
2b.	Runoff	p. 28	25	---	25
2c.	Distance to Surface Water	p. 28	25	---	25
2d.	Potential to Release by Overland Flow [lines 2a x (2b + 2c)]		500	---	500
3.	Potential to Release by Flood				
3a.	Containment (Flood)	p. 28	10	---	10
3b.	Flood Frequency	p. 28	50	---	50
3c.	Potential to Release by Flood [lines 3a x 3b]	p. 28	500	---	500
4.	Potential to Release [lines 2d + 3c, subject to a maximum of 500]		500	---	500
5.	Likelihood of Release [higher of lines 1 and 4]	p. 27	550	550	500
<u>Waste Characteristics</u>					
6.	Toxicity/Persistence		a	10,000	10,000
7.	Hazardous Waste Quantity	p. 28 & 29	a	100	1
8.	Waste Characteristics	p. 29	100	32	10
<u>Targets</u>					
9.	Nearest Intake		50	0	0
10.	Population				
10a.	Level I Concentrations		b	0	0
10b.	Level II Concentrations		b	0	0
10c.	Potential Contamination		b	0	0
10d.	Population [lines 10a + 10b + 10c]		b	0	0
11.	Resources		5	5	5
12.	Targets [lines 9 + 10d + 11]		b	5	5
<u>Drinking Water Threat Score</u>					
13.	Drinking Water Threat Score [(lines 5 x 8 x 12)/82,500, subject to maximum of 100]		100	1.0667	0.303

* Cross-reference for justification for all numbers that change

Table 4-1
SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET
(Cont.)

Factor Categories and Factors		Appendix C*	Maximum Value	Value Assigned in HRS Document Record	Value of Re-score
Human Food Chain Threat					
<u>Likelihood of Release</u>					
14.	Likelihood of Release [same value as line 5]	p. 27	550	550	500
<u>Waste Characteristics</u>					
15.	Toxicity/Persistence/Bioaccumulation	p. 28 & 29 p. 29	a	5 x 10 ⁸	5 x 10 ⁸
16.	Hazardous Waste Quantity		a	100	1
17.	Waste Characteristics		1,000	320	100
<u>Targets</u>					
18.	Food Chain Individual		50	20	20
19.	Population				
	19a. Level I Concentrations		b	0	0
	19b. Level II Concentrations		b	0	0
	19c. Potential Human Food Chain Contamination		b	0.0003	0.0003
	19d. Population				
	[lines 19a + 19b + 19c]		b	0.0003	0.0003
20.	Targets [lines 18 + 19d]		b	20.0003	20.0003
<u>Human Food Chain Threat Score</u>					
21.	Human Food Chain Threat Score [(lines 14 x 17 x 20)/82,500, subject to maximum of 100]		100	42.667	12.121

* Cross-reference for justification for all numbers that change

Table 4-1
SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET
(Concluded)

Factor Categories and Factors		Appendix C*	Maximum Value	Value Assigned in HRS Document Record	Value of Re-score
Environmental Threat					
22.	<u>Likelihood of Release</u> Likelihood of Release [same value as line 5]		550	550	500
23.	<u>Waste Characteristics</u> Ecosystem Toxicity/Persistence/Bioaccumulation		a	5 x 10 ⁸	5 x 10 ⁸
24.	Hazardous Waste Quantity	p. 30	a	100	1
25.	Waste Characteristics	p. 30	1,000	320	100
26.	<u>Targets</u> Sensitive Environments				
26a.	Level I Concentrations	p. 30	b	250	0
26b.	Level II Concentrations		b	0	0
26c.	Potential Contamination	p. 30	b	26.75	36.75
26d.	Population [lines 26a + 26b + 26c]		b	276.75	36.75
27.	Targets [value from line 26d]		b	276.75	36.75
28.	<u>Environmental Threat Score</u> [(lines 22 x 25 x 27)/82,500, subject to maximum of 60]	p. 31	60	60	22.273
<u>Surface Water Overland/Flood Migration Component Score for a Watershed</u>					
29.	Watershed Score ^c [lines 13 + 21 + 28, subject to a maximum of 100]	p. 31	100	100	34.697
SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORE					
30.	Component Score (S _{of}) ^c [highest score from line 29 for all watersheds evaluated, subject to a maximum of 100]	p. 31	100	100	34.697

^a Maximum value applies to waste characteristics category.

^b Maximum value not applicable.

^c Do not round to nearest integer.

* Cross-reference for justification for all numbers that change

APPENDIX C

HRS RESCORE DOCUMENTATION

- SECTION A Rationale for Rescoring**
- SECTION B Organization of Re-scoring Information**
- SECTION C Rescoring Information**
- SECTION D Summary of Scores**

APPENDIX C

HRS RESCORE

SECTION A. RATIONALE FOR RESCORING

The following points were the basis for re-scoring the package:

1. **POINT:** The area north of the DRMO, designated as a “wetland” in the Brandywine DRMO Documentation Record (p. 58 of HRS Documentation Record), is not a wetland. In addition, the areas surrounding drainage ditches 1 and 2 (ditch 1 is located between the west side of the Conrail railroad tracks and Cherry Tree Crossing Road; ditch 2 is located north of the site on the east side of the Conrail railroad tracks) are not “wetlands”.
JUSTIFICATION: A survey of the National Wetlands Inventory (NWI) map near the Brandywine DRMO site (HRS Documentation Record, Ref. 29) reveals that the only wetland in the vicinity of the site is located west of the site near Gott. The wetland determination is validated and substantiated by the USACOE (See Appendix E).
2. **POINT:** The water in the drainage ditches is not considered “surface water” by definition.
JUSTIFICATION: The HRS rule classifies surface water into four categories: rivers, lakes, oceans and coastal tidal waters (HRS Documentation Record, Ref. 1, p. 51605). Water observed in drainage ditches does not fall into the categories of lakes, oceans, and coastal tidal waters; however, “rivers” include “man-made ditches only insofar as they perennially flow into other surface water” (HRS Documentation Record, Ref. 1, p. 51605). The HRS Guidance Manual defines the term “perennial water body” as one that “contains water throughout the year under normal conditions (but that) under extreme conditions (e.g., severe drought) some water bodies considered perennial may not contain water” (HRS Guidance Manual, p. 204). The surface water discharge point from the culvert under Cherry Tree Crossing Road was characterized as an intermittent stream (HRS Documentation Record, Ref. 5, p. 3-1), and during visual observations made over the summer of 1998 the ditches were dry. Severe drought has not occurred in this area of the country during June through August 1998. According to the Climate Prediction Center (CPC) at the National Oceanographic and Atmospheric Administration (NOAA), 8-12 inches of precipitation have fallen in Maryland from June to August 1998 (see the CPC web page at: http://nic.fb4.noaa.gov/products/analysis_monitoring/regional_monitoring/3monthstotpcp.gif)
f) The average rainfall for AAFB during June-August is 10.87 inches (average rainfall data from 1981-1997, June-August, Andrews AFB, Station Number 745940). These rainfall data show that drought conditions do not exist. This information coupled with the visual observations (summer, 1998) of dry ditches document that the water in these ditches should not be considered perennial. Based on this information, the drainage ditches are not surface water bodies as defined in the HRS rule.
3. **POINT:** The samples collected by the USGS in August 1990 (HRS Documentation Record, Ref. 4) were not collected in surface water or a wetland as defined in the HRS rule (whether it be the wetland to the west of the DRMO, or the purported “wetland” to the north of the DRMO), as defined in the HRS Final Rule.

JUSTIFICATION: The USGS sediment and water samples collected in 1990 were used to “document an observed release to surface water” (HRS Documentation Record, pp. 61-62). However, by definition, the ditches are not surface water bodies (see POINT 2). Furthermore, the USGS samples were collected from a drainage ditch, not a wetland (see RATIONALE FOR RESCORING, POINT 1 and HRS Documentation Record, Ref. 4, p. 4-28). There is no evidence that these samples were collected from a wetland. Furthermore, recent (September 28, 1998) USACOE wetland determination is based upon an inspection of the wetlands and surrounding vicinity and shows that samples collected adjacent to the west end of the culvert (HRS Documentation Record, Ref. 4, p. 28) were not collected in a wetland (see USACOE Jurisdictional Determination of Wetland, Appendix E).

4. **POINT:** The sediment samples collected by the USGS in August 1990 (Reference 4) were not collected in a wetland.

JUSTIFICATION: See POINT 3.

On the basis of the four statements above, the site score (based on data used by the EPA to score Brandywine DRMO) is revised because of the following:

1. There is no longer an “observed release to surface water”, but rather a “potential to release”, because PCB concentrations remain in the soil at levels above the HRS benchmark levels used for scoring; and
2. There is no longer a sensitive environment (i.e., wetland) subject to Level I concentrations of contaminants. The wetland to the west of Cherry Tree Crossing Road near Gott Petroleum is subject instead to a “potential to release”.

The revision to the HRS Score is detailed in the sections below.

SECTION B. ORGANIZATION OF RESCORING INFORMATION

The re-scoring information presented below follows the section numbering outlined in the HRS Rule. The corresponding line number in the Surface Water Overland/Flood Migration Component (SWOFMC) Scoresheet is presented within each section being evaluated (HRS Documentation Record, Table 4-1). A revised SWOFMC Scoresheet summary that includes the re-score values is included at the end of this Appendix.

Note that only those sections (and therefore SWOFMC Scoresheet values) affected by the points listed above are addressed. Scoresheet values that were determined in the HRS Documentation Record, and which are not affected by the points listed above, are not addressed in this re-scoring effort.

SECTION C. RESCORING INFORMATION

4.1.1.1 Definition of Hazardous Substance Migration Path for Overland/Flood Migration Component

The point at which overland flow enters the wetland just west of Gott Petroleum is the probable point of entry (PPE) to surface water. The HRS Documentation Record does not specify exactly where the samples indicating elevated PCB levels (collected by the USGS, HRS Documentation Record, Ref. 4) were collected other than at the end of a culvert; therefore, the exact distance

between the source (as defined in Section 4.1.2.2.2 below) and the wetland near Gott Petroleum is unknown. To be conservative, the most stringent value, as illustrated in Table 4-7 of the HRS Final Rule (HRS Documentation Record, Ref. 1, p. 51611) of “less than 100 feet” is assumed.

4.1.1.2 Target Distance Limit

The distance from the PPE to Timothy branch is 2,000 feet and the distance from that point of Timothy Branch to its confluence with Mattawoman Creek is approximately 4 miles (HRS Documentation Record, p. 60). The 15-mile downstream target distance limit (TDL) is located in Mattawoman Creek some five miles upstream of the point at which it discharges to the Potomac River (HRS Documentation Record, p. 60). The table below summarizes the migration pathway along the 15-mile downstream TDL, and is a revised version of Table 14 presented on page 60 of the HRS Documentation Record.

**Table 14 (Revised for Rescore)
SURFACE WATER MIGRATION PATHWAY IN WATER SEGMENTS**

Segment Type	Description	Length (feet)	Distance From PPE (feet/miles)
Overland	Distance from Source 1 to PPE	unknown	Not Applicable
In-Water Segment 1	Distance from PPE at edge of wetland near Gott Petroleum to Timothy Branch as shown on NWI map	2,000	2,000 / 0.38
In-Water Segment 2	Distance from Timothy Branch to confluence with Mattawoman Creek	21,120	23,120 / 4.38
In-Water Segment 3	Distance from Mattawoman Creek to end of 15-mile downstream TDL	56,080	79,200 / 15

The targets (i.e., the wetlands, Timothy Branch and Mattawoman Creek) are located within the target distance limit, but not at or between the PPE and any sampling point. Therefore, they do not meet the criteria for an observed release to the watershed. Furthermore, the targets are not at a point that meets the criteria for an observed release by direct observation. Thus, because of the locations of the targets, the targets should be evaluated as subject to potential contamination (HRS Documentation Record, Ref. 1, p. 51605).

4.1.1.3 Evaluation of Overland/Flood Migration Component

DRINKING WATER THREAT

4.0 Observed Release

Because there has been no observed release to surface water (see RATIONALE FOR RESCORING, Points 1-4), the value of line 1 in the SWOFMC Scoresheet is assigned a value of 0.

4.1.2.1.2.1.1 Containment

From Table 4-2 of the HRS Final Rule (HRS Documentation Record, Ref. 1, p. 51609) a containment value of 10 is assigned since there is evidence of hazardous substance migration

from the source area. The migration is supported by sediment and surface water samples collected by USGS in 1990 (HRS Documentation Record, Ref. 4, pp. 4-28 through 4-39). A value of 10 is added to line 2a of the SWOFMC Scoresheet.

4.1.2.1.2.1.2 Runoff

There is insufficient information to evaluate this factor. In the absence of data and to be conservative, the maximum value of 25 will be assigned. A value of 25 is added to line 2b of the SWOFMC Scoresheet.

4.1.2.1.2.1.3 Distance to Surface Water

The exact distance to surface water (from the PPE) is unknown; however, to be conservative the worst case scenario of less than 100 feet was selected. According to Table 4-7 in the HRS Rule (HRS Documentation Record, Ref. 1, p. 51611), this corresponds to a value of 25. A value of 25 is added to line 2c of the SWOFMC Scoresheet.

4.1.2.1.2.2.1 Containment

There is no flood containment at Source 1; therefore, a value of 10 is assigned from Table 4-8 of the HRS Final Rule (HRS Documentation Record, Ref. 1, p. 51611). A value of 10 is added to line 3a of the SWOFMC Scoresheet.

4.1.2.1.2.2.2 Flood Frequency

There is insufficient information to evaluate this factor. In the absence of data, and to be conservative, the maximum value of 50 will be assigned. A value of 50 is added to line 3b of the SWOFMC Scoresheet.

4.1.2.2.1 Toxicity/Persistence

Because PCBs are one of the contaminants of concern, a toxicity/persistence value of 10,000 is assigned (see HRS Documentation Record, pp. 64 and 65 for further details). Thus, a value of 10,000 is added to line 6 of the SWOFMC Scoresheet.

4.1.2.2.2 Hazardous Waste Quantity (HWQ)

In the HRS Documentation Record, Source 2 is defined as an unallocated source associated with the groundwater plume. However, “sources”, as defined by HRS Final Rule, do not include groundwater that has become contaminated by migration, except in the case of either a groundwater plume with no identified source or contaminated surface water sediments with no identified source (HRS Documentation Record, Ref. 1, p. 51587). Because contaminated soil is the source of groundwater contamination, it is incorrect to call the groundwater a “source”. Thus, only one source –contaminated soil– should be evaluated for this factor.

In Brandywine DRMO Reference 50, the area of contaminated soil is estimated to be 305,204.5 square feet (ft.²). However, surface water runoff may have transported contaminated soil from Source 1 to the drainage ditch near the Gott facility (as evidenced by the USGS samples collected in 1990 and detailed in HRS Documentation Record, Ref. 4, pp. 4-28 through 4-39). Therefore, the area between the DRMO (Source 1 as defined by EPA) and the outfall of the culvert near Gott Petroleum also should be assumed to be contaminated. Thus the total area of contaminated soil should be the sum of the area of the DRMO and the area north of the DRMO

in which contaminated soil was transported. Using Figure 3 from Brandywine DRMO Reference 48 (attached in Appendix D of this document) the area of contaminated soil between Source 1 and the outfall of the culvert discharging near Gott Petroleum was estimated to be 104,304 ft.² (see Appendix D). Note that the area between the Conrail railroad tracks and Cherry Tree Crossing Road was not evaluated because water in this ditch drains north towards the culvert, thereby limiting contamination to the south.

Thus, the total area of contaminated soil is $305,204.5 \text{ ft.}^2 + 104,304 \text{ ft.}^2 = 409,509 \text{ ft.}^2$. Dividing this by a factor of 34,000 (HRS Final Rule, p. 51591) produces a Hazardous Waste Quantity value of 12.04. Because this is the only source, the sum of the HWQs for all sources (Source 1 plus Source 2) is 12.04. This corresponds to a Hazardous Waste Quantity Factor Value of 1 (HRS Documentation Record, Ref. 1, p. 51591). A value of 1 is added to line 7 of the SWOFMC Scoresheet.

4.1.2.2.3 Waste Characteristics Factor Category Value

The waste characteristics product is calculated by multiplying the Toxicity/Persistence value (10,000) by the Hazardous Waste Quantity Value (1) and is equal to 1×10^4 . This corresponds to Waste Characteristic Factor Category Value of 10 (Ref. 1, p. 51592, Table 2-7). A value of 10 is added to line 8 of the SWOFMC Scoresheet.

HUMAN FOOD CHAIN THREAT

4.1.3.1 Human Food Chain Threat –Likelihood of Release

This value is the same as that assigned under the drinking water threat. A value of 500 is added to line 14 of the SWOFMC Scoresheet.

4.1.3.2.1 Toxicity/Persistence/Bioaccumulation (T/P/B)

Because PCBs are a chemical of concern, a T/P/B factor value of 5×10^8 is assigned (see HRS Documentation Record, pp. 68 and 69 for details). A value of 5×10^8 is added to line 15 of the SWOFMC Scoresheet.

4.1.3.2.2 Hazardous Waste Quantity (HWQ)

The HWQ is the same as that calculated for the drinking water threat (see above). A value of 1 is added to line 16 of the SWOFMC Scoresheet.

4.1.3.2.3 Waste Characteristics Factor Category Value

The waste characteristics product is calculated by multiplying the T/P/B value (5×10^8) by the HWQ (1) and is equal to 5×10^8 . This corresponds to Waste Characteristic Factor Category Value of 100 (HRS Documentation Record, Ref. 1, p. 51592, Table 2-7). A value of 100 is added to line 17 of the SWOFMC Scoresheet.

ENVIRONMENTAL THREAT

4.1.4.1 Environmental Threat –Likelihood of Release

This value is the same as that assigned under the drinking water threat. A value of 500 is added to line 22 of the SWOFMC Scoresheet.

4.1.4.2.1.1 Ecosystem Toxicity/Persistence/Bioaccumulation (T/P/B)

Because PCBs are a chemical of concern, an Ecosystem T/P/B factor value of 5×10^8 is assigned (see HRS Documentation Record, pp. 76, 77, and 78 for details). A value of 5×10^8 is added to line 23 of the SWOFMC Scoresheet.

4.1.4.2.2 Hazardous Waste Quantity (HWQ)

The HWQ is the same as that calculated for the drinking water threat (see above). A value of 1 is added to line 24 of the SWOFMC Scoresheet.

4.1.4.2.3 Waste Characteristics Factor Category Value

The waste characteristics product is calculated by multiplying the Ecosystem T/P/B value (5×10^8) by the HWQ (1) and is equal to 5×10^8 . This corresponds to Waste Characteristic Factor Category Value of 100 (HRS Documentation Record, Ref. 1, p. 51592, Table 2-7). A value of 100 is added to line 25 of the SWOFMC Scoresheet.

4.1.4.3.1 Sensitive Environments

Because there are no sensitive environments (including wetlands) subject to Level I or Level II concentrations (see RATIONALE FOR RESCORING, Section A, above), only a potential to contaminate those sensitive environments within the TDL exists. Lines 26a and 26b in the SWOFMC Scoresheet are assigned values of 0.

4.1.4.3.1.3 Potential Contamination

As documented on page 83 of the HRS Documentation Record, several sensitive environments and wetlands are subject to potential contamination. The only change to the tables presented on page 83 of the HRS Documentation Record is the addition of the wetland near the Gott Property (west of the DRMO) being subject to potential contamination. Due to a lack of information about this wetland, the classification of this “sensitive environment” was inferred from available data. Because the wetlands associated with Timothy Branch contain several plants identified by the State as endangered or threatened (HRS Documentation Record, Ref. 34, pp. 2.3-85), and because the wetlands near the Gott property drain to an unnamed tributary of Timothy Branch, it is assumed that the wetlands near the Gott Property contain the same species of endangered or threatened plant species as those found near Timothy Branch. Based on this assumption, a Sensitive Environment Value of 50 (same as for Timothy Branch) is assigned to the wetlands near the Gott property (HRS Documentation Record, Ref. 1, p. 51624, Table 4-23).

The portion of wetlands subject to contamination was used to estimate wetland frontage subject to potential contamination. The wetland frontage was calculated using the perimeter of the wetland that was within the TDL. This perimeter is estimated to be slightly over one mile, which relates to a Wetlands Rating Value (HRS Documentation Record, Ref. 1, p. 51625, Table 4-24) of 50. When calculating wetland perimeter, only the wetland perimeter within the TDL was evaluated. This calculation was used because the wetland drains south to Timothy Branch (HRS Documentation Record, p. 59, Figure 7), and thus any potential contamination in the wetlands would also flow south. Contamination in the northern portion of the wetlands should not be considered when evaluating the frontage value for the wetland. A summary of all ratings is presented in Table B-1 below. Additionally, because information related to the flow of surface

water into and out of the wetland is not definitive, a dilution weight of 1 (the same used for Timothy Branch) is assigned to the wetland.

TABLE B-1: SUMMARY OF RATINGS

Type of Surface Water Body	Sensitive Environment	Reference	Sensitive Environment Value	Wetland Rating Value
Small to moderate stream (Mattawoman Creek)	Areas identified under the Coastal Zone Management Act	HRS Documentation Record, p. 83	100	500
Small to moderate stream (Mattawoman Creek)	Migratory pathway crucial to maintenance of anadromous fish	HRS Documentation Record, p. 83	75	500
Minimal stream (Timothy Branch)	Habitat used by State-listed endangered or threatened species	HRS Documentation Record, p. 83	50	150
Wetlands near Gott Petroleum facility	Same as for Timothy Branch	None	50	50

Based on this information, the Potential Contamination Factor (PCF) for each type of surface water body is shown below:

TABLE B-2: POTENTIAL CONTAMINATION FACTORS FOR SUFACE WATER BODIES

Type of Surface Water Body	Sum of Sensitive Environment Values	Wetland Rating Value	Dilution Weight	Potential Contamination Factor
Small to moderate stream (Mattawoman Creek)	175	500	0.1	67.5
Minimal stream (Timothy Branch)	50	150	1	200
Wetlands near Gott Petroleum facility	50	50	1	100

Thus the sum of the PCF for the sensitive environments is 367.5. Based on this number, the Potential Contamination Factor Value (PCF/10) is calculated to be 36.75. A value of 36.75 is added to line 26c of the SWOFMC Scoresheet. As a result, lines 26d and 27 also become 36.75.

Calculation of Surface Water Migration Pathway Score

The Surface Water Migration Pathway score is the sum of the drinking water, human food chain threat, and environmental threat scores. These scores are calculated on lines 13, 21, and 28 of the SWOFMC Scoresheet and correspond to 0.303, 12.121 and 22.273 respectively. Thus, the sum of these scores is 34.697.

D. SUMMARY OF SCORES

Groundwater Pathway Score:	7.81
Surface Water Pathway Score:	34.697
HRS SITE SCORE:	17.78

APPENDIX D

CALCULATIONS

Additional Area of Contaminated Soil

Wetlands Frontage

Calculation 1
Calculation of Additional Area of Contaminated Soil

Calculation of Additional Area of Contaminated Soil:

This area was calculated by first assuming that the area labeled "Wetland Area" on the figure (HRS Documentation Record, Ref. 48, Figure 3) reproduced on the following page is contaminated (as described above) and then following the procedure below:

- $$\begin{aligned} \text{Area} &= 12.9 \text{ cm} \times 1.7 \text{ cm} \times \frac{200 \text{ ft}}{2.9 \text{ cm}} \times \frac{200 \text{ ft}}{2.9 \text{ cm}} \\ \text{Calculation} & \quad (\text{length}) \quad (\text{width}) \quad (\text{scaled from figure}) \quad (\text{scaled from figure}) \\ &= 104,304 \text{ ft}^2 \end{aligned}$$

Calculation 2
Calculation of Wetland Frontage

Calculation 2

Calculation of Wetland Frontage:

Using the National Wetlands Inventory (NWI) map (HRS Documentation Record Reference 29), the wetland frontage subject to potential contamination was determined. This was done by using the following procedure:

1. Points along the perimeter of the portion of wetland within the TDL were drawn on the map (see following figure, which is a magnified section of the NWI map);
2. The distance from point to point along the wetland was measured (in centimeters) with a ruler;
3. The point-to-point distances were totaled; and
4. The scale at the bottom of the NWI map was used to relate the measured distance to actual feet.

The data and calculations are presented below:

Distance Measured From Point	To Point	Was Found To Be (cm)
A	B	0.6
B	C	0.5
C	D	0.8
D	E	0.8
E	F	0.6
F	G	0.8
G	H	1.0
H	A	1.5
TOTAL		6.6

Calculations:

$$\begin{array}{l} \text{Wetland} \\ \text{Frontage} \\ \text{(ft)} \end{array} = 6.6 \text{ cm} \times \frac{7000 \text{ ft}}{9.1 \text{ cm}} = 5077 \text{ ft}$$

$\left(\begin{array}{c} \text{measured} \\ \text{distance} \\ \text{on map} \end{array} \right) \quad \left(\begin{array}{c} \text{scaled} \\ \text{from} \\ \text{NWI map} \end{array} \right)$

$$\begin{array}{l} \text{Wetland} \\ \text{Frontage} \\ \text{(miles)} \end{array} = 5077 \text{ ft} \times \frac{1 \text{ mile}}{5280 \text{ ft}} = 0.96 \text{ miles}$$

Since there is a degree of uncertainty involved in this method of calculation, there could be between 0.9 - 1.1 miles value of the perimeter (assuming $\pm 10\%$ variability). To be conservative, a value of 1.1 miles is assigned. This relates to a Wetlands Rating Value of 50 (HRS Documentation Record, Reference 1, p. 51625, Table 4-24).

APPENDIX E

USACOE JURISDICTIONAL DETERMINATION OF WETLAND



DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, U.S. ARMY CORPS OF ENGINEERS
P.O. BOX 1715
BALTIMORE, MD 21203-1715

REPLY TO
ATTENTION OF

September 28, 1998

Operations Division

Subject: CENAB-OP-RP(BRANDYWINE DRMO SITE/JD)98-01101-3

Brian LaFlame
Environmental Planning Section (CEVP)
3479 Patchet Avenue
Andrews AFB, Maryland 20762-4803

Dear Mr. LaFlame:

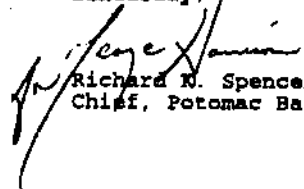
I am replying to the request, dated September 17, 1998, for a jurisdictional determination and verification of the delineation of waters of the United States, including jurisdictional wetlands, Brandywine DRMO site located in Prince Georges County, Maryland.

Based on a non-field review of the information submitted, the delineation of waters of the United States, including jurisdictional wetlands, on the enclosed map considered is accurate. Those areas indicated as waters of the U.S., including non-tidal wetlands are regulated by this office pursuant to Section 404 of the Clean Water Act. State and local authorizations may also be required. This verification is valid for five years from the date of this letter, unless new information warrants a revision before the expiration date.

You are reminded that any grading or filling of waters of the United States, including jurisdictional wetlands, is subject to Department of the Army authorization. In addition, the Interstate Land Sales Full Disclosure Act may require that prospective buyers be made aware, by the seller, of the Federal authority over any waters of the United States, including jurisdictional wetlands, being purchased.

If you have any questions concerning this matter, please call George Harrison of this office at (410) 962-6002.

Sincerely,


Richard N. Spencer
Chief, Potomac Basin Section



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 89TH AIRLIFT WING (AMC)

MEMORANDUM FOR CENAB-OP-RP

SEP 17 1998

Attn: Mr. George Harrison
P.O. Box 1715
Baltimore MD 21203-1715

FROM: 89 CES/CEVP
3479 Fetchet Avenue
Andrews AFB MD 20762-4803

SUBJECT: Jurisdictional Determination of Wetlands on Andrews Air Force Base

1. Andrews AFB requests that a Jurisdiction Determination (JD) be made for a small area of land at our Brandywine DRMO site. You will find a map and Data Forms for the site at attachments 1 and 2.
2. If you require any additional information please contact Mr Steve Richards, at (301) 981-7121, or me, at (301) 981-2579.

A handwritten signature in black ink, appearing to read "B. D. Laflamme", is positioned above the printed name.

BRIAN D. LAFLAMME, REM
Chief, Environmental Planning

Attachments

1. Site Map
2. Data Form, Routine Wetland Determination

AMC-GLOBAL REACH FOR AMERICA



TETRA TECH NUS, INC.

910 Clopper Road, Suite 400, Gaithersburg, MD 20878-1399
(301) 258-6000

September 16, 1998

EPNCD-98-003

Wetland Services for Andrews AFB

Mr. Brian LaFlamme, REM
3479 Fetchet Avenue
89 CES/CEVP
Andrews AFB, Maryland 20762

Dear Mr. LaFlamme:

I completed a delineation of wetlands, as defined in 33 CFR 328 and regulated under Section 404 of the Clean Water Act, for the former Brandywine DRMO site in eastern Prince Georges County, Maryland on Monday, September 14, 1998. The delineation followed routine procedures for areas under 5 acres in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and supplementary guidance (COE, 1992). Other reference sources used in the delineation include the Soil Survey for Prince Georges County, Maryland (SCS, 1967) and the National List of Plant Species that Occur in Wetlands (Reed, 1988). This letter summarizes the findings of the wetland delineation.

Data sheets are attached for four (4) representative locations in areas of potential wetlands shown on an undated sketch prepared by Tetra Tech EM, Inc. that was supplied to me on September 14 by Steven Richards of your office. The sketch is attached as Attachment A and the data sheets are attached as Attachment B. The data points are depicted graphically on Attachment C and in the table below:

Data Point	Coordinates	Location Description	Finding
1	38°42'03"N 76°50'72"W	In depression on railroad bed, approx. 15 feet north of NW corner of fenced area. Area labeled as "Drainage Ditch 2" on provided sketch, but no ditch apparent.	Nonwetland
2	38°42'12"N 76°50'66"W	Approx. 15 feet east of DP #1, outside of depression but still on railroad bed.	Nonwetland
3	38°42'10"N 76°50'70"W	In roadside ditch between Cherry Tree Road and railroad tracks. Area labeled as "Drainage Ditch 1" on provided sketch.	Nonwetland
4	38°48'90"N 76°51'27"W	Approximately 15 feet downgradient from stormwater outfall on west side of Cherry Tree Road and south of Gott Petroleum.	Wetland

Area 2 (Drainage Ditch 2), represented by Data Point 1, was determined not to be a wetland because it is dominated exclusively by barnyardgrass (*Echinochloa crus-galli*), which is considered to be facultative upland (FACU) in the northeastern United States, including all of Maryland (Reed, 1988). Soils appear to be fill soils placed to create an elevated bed for a former railroad track, now removed. Area 2 is a weakly defined depression on the fill soils that likely accumulates runoff from the adjoining compacted soils on the railroad bed and the DRMO Site. The soils in this depression are heavily compacted and may pond runoff for brief periods following heavy rainfall. Frequent tire ruts suggest that periods of saturation or shallow inundation do occur. But the fact that the vegetation is not dominated by plant species typical of wetlands (even wetlands in disturbed areas) suggests that any periods of saturation are brief and episodic. Furthermore, the soils in the depression did not display the puddled (cracked) surface that would be expected if runoff had been present in the area for an extended period earlier in the 1998 growing season.

Area 1 (Drainage Ditch 1), represented by Data Point 3, was determined to not be wetland for the same reasons as was Area 2. This roadside ditch likely accumulates runoff from the adjoining road surface and railroad bed following heavy rainfall events. But, as for Area 2, the vegetation and soil

Page 3
EPNCD-98-003
September 16, 1998

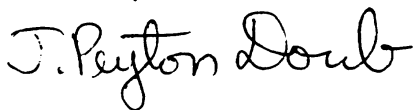
conditions suggest that the runoff does not persist long enough to support hydrophytic vegetation.

The data from Data Point 4 clearly suggest that the low-lying lands downgradient from the stormwater outfall are wetlands. The outfall receives stormwater from the railroad bed. The outfall feeds directly into what appears to be a poorly defined intermittent stream channel that flows westward. The soils at Data Point 4 appear to be undisturbed soils of the hydric Leonardtown soil series. The extent of saturated periods at Data Point 4 has likely been enhanced by runoff flows from nearby impervious surfaces. The wetlands at Data Point 4 would be best classified as Palustrine emergent wetlands, persistent (PEM1) according to the classification system developed by the US Fish & Wildlife Service (Cowardin et al., 1979).

Data Point 2 was collected from an area outside of the depression (Area 2) for the purpose of obtaining upland data for comparison against Data Point 1. The vegetation is dominated by weedy species typical of disturbed areas. Although the two dominant species are facultative (FAC) and facultative wetland (FACW), the vegetation also includes several associated species that grow predominantly in disturbed upland areas.

Please call me with any additional questions concerning the wetland delineation reported in this letter.

Sincerely,

A handwritten signature in cursive script that reads "J. Peyton Doub".

J. Peyton Doub, PWS
WDGP93MD0510029B

REFERENCES

COE (US Army Corps of Engineers). 1992. Clarification and Interpretation of the 1987 Manual. Memorandum dated March 6, 1992 by Major A.E. Williams, Major General, USA, Directorate of Civil Works.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. FWS/OBS-79/31.

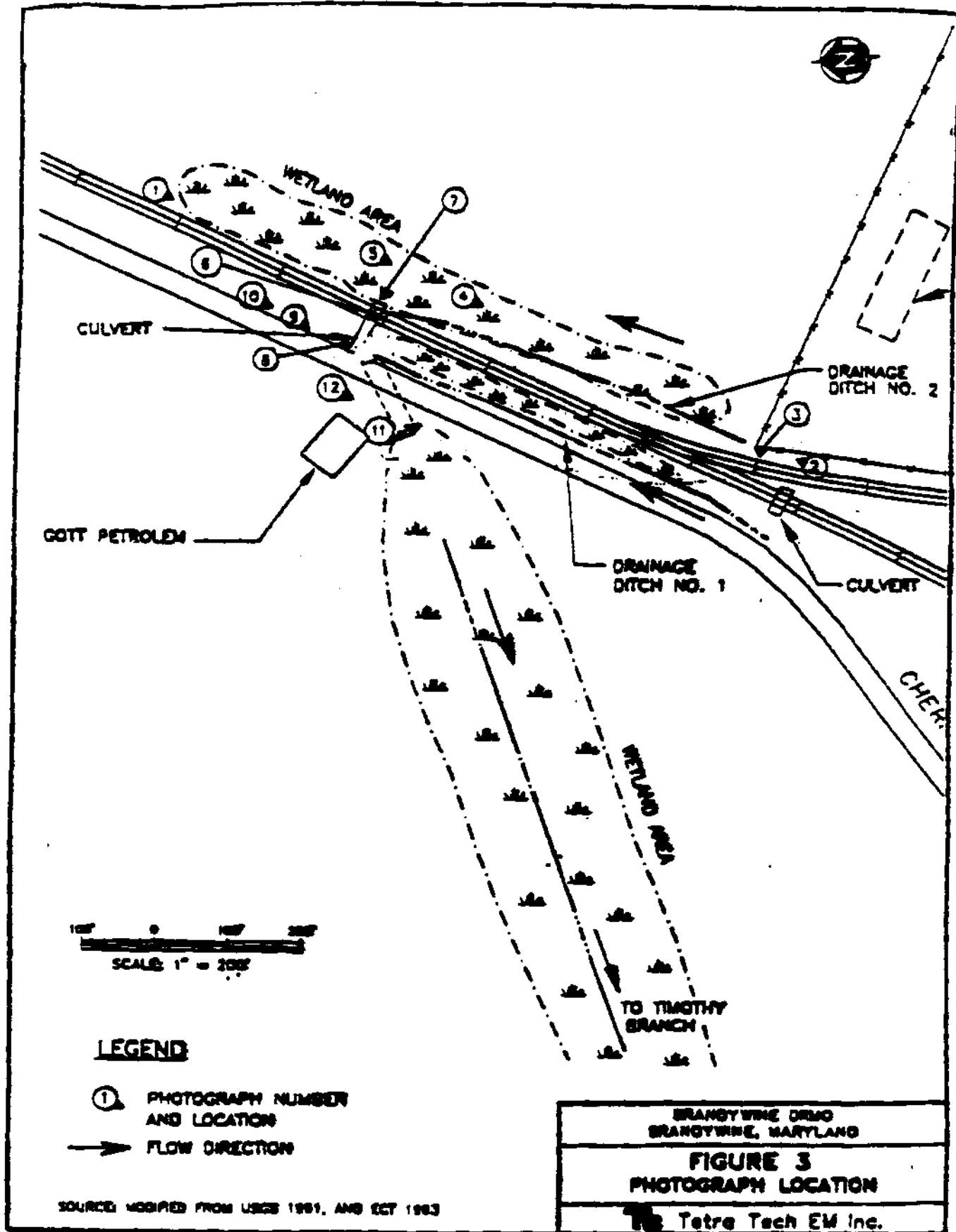
Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. US Army Engineer Waterways Experiment Station, Vicksburg, MS.

Reed, P. B. 1988. National List of Plant Species That Occur in Wetlands: National Summary. US Fish and Wildlife Service, Washington, DC. Biological Report 88(24), September 1988.

SCS (Soil Conservation Service). 1967. Soil Survey for Prince Georges County, Maryland. April 1967.

ATTACHMENT A

DATE: 04/04/04 BY: 00
 FILE NAME: 04_0404040404040404



**ATTACHMENT B
WETLAND DELINEATION DATA SHEETS
DATA POINTS #1, #2, #3, AND #4
WETLAND DELINEATION OF BRANDYWINE DRMO SITE
SEPTEMBER 14, 1998**

DATA POINT #1
BRANDYWINE DRMO SITE
WETLAND DELINEATION DATA FORM, PAGE 1
1987 MANUAL

Project/Site: <u>BRANDYWINE DRMO SITE</u> Applicant: <u>ANDREWS AIR FORCE BASE</u> Investigator: <u>J. PEYTON DOUB, PWS</u>	Date: <u>9/14/98</u> County: <u>PRINCE GEORGES</u> State: <u>MARYLAND</u>
Do Normal Circumstances exist on the site?: <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)?: <input checked="" type="radio"/> Yes <input type="radio"/> No Is the area a potential Problem Area?: <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse)	Community ID: <u>OLD FIELD</u> Transect ID: <u>N/A</u> Plot ID: <u>1</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Other Plant Species	Stratum	Indicator
ECHINOCHLOA CRUS-GALLI	H	FACU	BIDENS ARISTOSA	H	FACW-
			CYPERUS ESCULENTUS	H	FACW
			JUNCUS TENUIS	H	FAC-
			EUPATORIUM MACULATUM	H	FACW

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 0

Remarks: DOMINATED BY A SINGLE SPECIES THAT IS FACU. THIS SPECIES REPRESENTS OVER 75% COVER AT THIS POINT AND THROUGHOUT THE ISOLATED DEPRESSION IN WHICH THE POINT IS LOCATED.

HYDROLOGY

Recorded Data (Described in Remarks): _____ Stream, Lake, or Tide Gauge _____ Aerial Photographs _____ Other X _____ No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: _____ Inundated _____ Saturated in Upper 12 inches _____ Water Marks _____ Drift Lines _____ Sediment Deposits _____ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): _____ Oxidized Root Channels in Upper 12 inches _____ Water-Stained Leaves _____ Local Soil Survey Data _____ FAC-Neutral Test _____ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>NONE</u> (in.) Depth to Free Water in Pit: <u>NONE</u> (in.) Depth in Saturated Soil: <u>NONE</u> (in.)	Remarks: NO FIELD INDICATORS OF WETLAND HYDROLOGY. DROUGHT CONDITIONS AT TIME OF SURVEY, THUS DIRECT OBSERVATION OF SATURATED SOILS NOT EXPECTED. BUT NO PUDDLE EROSION OR OTHER EVIDENCE OF RECENT EXTENDED PERIODS OF SURFACE INUNDATION.

DATA POINT #1
BRANDYWINE DRMO SITE
WETLAND DELINEATION DATA FORM, PAGE 2
1987 MANUAL

Soil

Map Unit Name (Series and Phase):		LEONARDTOWN SILT LOAM, 0-2% SLOPES		Drainage Class:		POORLY DRAINED	
Taxonomy (subgroup):		ULTISOLS: TYPIC FRAGIAQUILTS		Field Observations		Yes <input type="radio"/> No <input checked="" type="radio"/>	
Confirmed Mapped Type?							
Profile Description:							
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture Concretions, Structure, etc,		
0-1	SEDIMENT	10YR 5/4	NONE	N/A	SILTY CLAY LOAM		
1-12	B	10YR 5/6	10YR 5/4	60:40 RATIO	SANDY CLAY LOAM		
12-18 +	B	10YR 5/6	10YR 5/4	80:20 RATIO	SANDY CLAY LOAM		
Hydric Soil Indicators:							
<input type="checkbox"/> Histosol		<input type="checkbox"/> Concretions					
<input type="checkbox"/> Histic Epipedon		<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soil					
<input type="checkbox"/> Sulfidic Odor		<input type="checkbox"/> Organic Streaking in Sandy Soils					
<input type="checkbox"/> Aquic Moisture Regime		<input type="checkbox"/> Listed on Local Hydric Soils List					
<input type="checkbox"/> Reducing Conditions		<input type="checkbox"/> Listed on National Hydric Soils List					
<input type="checkbox"/> Gleyed or Low-Chroma Colors		<input type="checkbox"/> Other (Explain in Remarks)					
Remarks: NO FIELD INDICATORS OF HYDRIC SOIL. SOIL APPEARS TO BE HEAVILY COMPACTED FILL MATERIAL USED TO CONSTRUCT A RAILROAD BED.							

WETLAND DETERMINATION

Hydrophytic Vegetation Present?		(Circle) Yes <input type="radio"/> No <input checked="" type="radio"/>		Is this Sampling Point Within a Wetland?		(Circle) Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present?		Yes <input type="radio"/> No <input checked="" type="radio"/>					
Hydric Soils Present?		Yes <input type="radio"/> No <input checked="" type="radio"/>					
Remarks: THIS SURFACE DEPRESSION IS NOT A WETLAND. ALTHOUGH IT MAY BRIEFLY POND SURFACE WATER FOLLOWING RAINFALL, THERE IS NO EVIDENCE THAT THE WATER PERSISTS LONG ENOUGH DURING THE GROWING SEASON TO CREATE WETLAND CONDITIONS.							

Classification: UPLAND (U)

**DATA POINT #2
BRANDYWINE DRMO SITE
WETLAND DELINEATION DATA FORM, PAGE 1
1987 MANUAL**

Project/Site: <u>BRANDYWINE DRMO SITE</u> Applicant: <u>ANDREWS AIR FORCE BASE</u> Investigators: <u>J. PEYTON DOUB, PWS</u>	Date: <u>9/14/98</u> County: <u>PRINCE GEORGES</u> State: <u>MARYLAND</u>
Do Normal Circumstances exist on the site?: <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)?: <input checked="" type="radio"/> Yes <input type="radio"/> No Is the area a potential Problem Area?: <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse)	
Community ID: <u>OLD FIELD</u> Transect ID: <u>N/A</u> Plot ID: <u>2</u>	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
BIDENS ARISTOSA	H	FACW-	SETARIA GLAUCA	H	FAC
ERAGROSTIS PECTINACEA(?)	H	FAC	ECHINOCHLOA CRUS-GALLI	H	FACU
			AMBROSIA ARTEMISIIFOLIA	H	FACU
			ASCLEPIAS SYRIACA	H	UPL
			ANDROPOGON VIRGINICUS	H	FACU
			LIQUIDAMBAR STYRACIFLUA	H	FAC
			TOXICODEN. RADICANS	H	FAC
			EUPATORIUM MACULATUM	H	FACW
			CYPERUS ESCULENTUS	H	FACW

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 100

Remarks: ALTHOUGH DOMINANT SPECIES ARE TOLERANT OF SEASONALLY SATURATED SOILS, THIS VEGETATION IS GENERALLY CHARACTERIZED BY WEEDS WITH A BROAD RANGE OF TOLERANCES.

HYDROLOGY

Recorded Data (Described in Remarks): _____ Stream, Lake, or Tide Gauge _____ Aerial Photographs _____ Other _____ No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: _____ Inundated _____ Saturated in Upper 12 inches _____ Water Marks _____ Drift Lines _____ Sediment Deposits _____ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): _____ Oxidized Root Channels in Upper 12 inches _____ Water-Stained Leaves _____ Local Soil Survey Data _____ FAC-Neutral Test _____ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>NONE</u> (in.) Depth to Free Water in Pit: <u>NONE</u> (in.) Depth in Saturated Soil: <u>NONE</u> (in.)	
Remarks: NO FIELD INDICATORS OF WETLAND HYDROLOGY.	

DATA POINT #2
BRANDYWINE DRMO SITE
WETLAND DELINEATION DATA FORM, PAGE 2
1987 MANUAL

Soil

Map Unit Name (Series and Phase):		LEONARDTOWN SILT LOAM, 0-2% SLOPES		Drainage Class:	POORLY DRAINED
Taxonomy (subgroup):		ULTISOLS: TYPIC FRAGIAQUULTS		Field Observations Confirmed Mapped Type?	Yes <input type="radio"/> No <input checked="" type="radio"/>
Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture Concretions, Structure, etc,
0-2	A	10YR 5/4	NONE	N/A	SILTY CLAY LOAM
2-12	E	10YR 6/3	10YR 5/6	60:40 RATIO	SANDY CLAY LOAM
12-18 +	B	10YR 6/3	10YR 5/6	50:50 RATIO	SILTY CLAY
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol		<input type="checkbox"/> Concretions			
<input type="checkbox"/> Histic Epipedon		<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soil			
<input type="checkbox"/> Sulfidic Odor		<input type="checkbox"/> Organic Streaking in Sandy Soils			
<input type="checkbox"/> Aquic Moisture Regime		<input type="checkbox"/> Listed on Local Hydric Soils List			
<input type="checkbox"/> Reducing Conditions		<input type="checkbox"/> Listed on National Hydric Soils List			
<input type="checkbox"/> Gleyed or Low-Chroma Colors		<input type="checkbox"/> Other (Explain in Remarks)			
Remarks: NO FIELD INDICATORS OF HYDRIC SOIL. SOIL APPEARS TO BE HEAVILY COMPACTED FILL MATERIAL USED TO CONSTRUCT A RAILROAD BED.					

WETLAND DETERMINATION

<p>Hydrophytic Vegetation Present? (Circle) <input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>Wetland Hydrology Present? <input type="radio"/> Yes <input checked="" type="radio"/> No</p> <p>Hydric Soils Present? <input type="radio"/> Yes <input checked="" type="radio"/> No</p>	<p>Is this Sampling Point Within a Wetland? (Circle) <input type="radio"/> Yes <input checked="" type="radio"/> No</p>
<p>Remarks: THIS DISTURBED AREA, WHERE A RAILROAD TRACK APPEARS TO HAVE BEEN REMOVED, IS CLEARLY AN UPLAND.</p>	

Classification: UPLAND (U)

**DATA POINT #3
BRANDYWINE DRMO SITE
WETLAND DELINEATION DATA FORM, PAGE 1
1987 MANUAL**

Project/Site: <u>BRANDYWINE DRMO SITE</u> Applicant: <u>ANDREWS AIR FORCE BASE</u> Investigators: <u>J. PEYTON DOUB, PWS</u>	Date: <u>9/14/98</u> County: <u>PRINCE GEORGES</u> State: <u>MARYLAND</u>
Do Normal Circumstances exist on the site?: <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)?: <input checked="" type="radio"/> Yes <input type="radio"/> No Is the area a potential Problem Area?: <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse)	Community ID: <u>OLD FIELD</u> Transect ID: <u>N/A</u> Plot ID: <u>3</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
ECHINOCHLOA CRUS-GALLI	H	FACU	SOLIDAGO CANADENSIS	H	FACU
JUNCUS EFFUSUS	H	FACW+	CONOCLINIUM COELEST.	H	FAC
			EUTHAMIA GRAMINIFOLIA	H	FAC
			SMILAX ROTUNDIFOLIA	H	FAC
			TOXICODEN. RADICANS	H	FAC

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 50

Remarks: MARGINALLY HYDROPHYTIC VEGETATION, BUT BEST CHARACTERIZED AS RUDERAL VEGETATION TYPICAL OF DISTURBED AREAS

HYDROLOGY

Recorded Data (Described in Remarks): <u> </u> Stream, Lake, or Tide Gauge <u> </u> Aerial Photographs <u> </u> Other <u> </u> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <u> </u> Inundated <u> </u> Saturated in Upper 12 inches <u> </u> Water Marks <u> </u> Drift Lines <u> </u> Sediment Deposits <u> </u> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <u> </u> Oxidized Root Channels in Upper 12 inches <u> </u> Water-Stained Leaves <u> </u> Local Soil Survey Data <u> </u> FAC-Neutral Test <u> </u> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>NONE</u> (in.) Depth to Free Water in Pit: <u>NONE</u> (in.) Depth in Saturated Soil: <u>NONE</u> (in.)	Remarks: NO FIELD INDICATORS OF WETLAND HYDROLOGY. DROUGHT CONDITIONS AT TIME OF SURVEY, THUS DIRECT OBSERVATION OF SATURATED SOILS NOT EXPECTED. BUT NO PUDDLE EROSION OR OTHER EVIDENCE OF RECENT EXTENDED PERIODS OF SURFACE INUNDATION.

**DATA POINT #3
BRANDYWINE DRMO SITE
WETLAND DELINEATION DATA FORM, PAGE 2
1987 MANUAL**

Soil

Map Unit Name (Series and Phase):		LEONARDTOWN SILT LOAM, 0-2% SLOPES		Drainage Class:	POORLY DRAINED
Taxonomy (subgroup):		ULTISOLS: TYPIC FRAGIAQUULTS		Field Observations Confirmed Mapped Type?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture Concretions, Structure, etc.
0-3	A	10YR 4/2	NONE	N/A	LOAM
3-12	E	10YR 6/2	10YR 5/6	70:30 RATIO	SANDY CLAY LOAM
12-18	B	10YR 6/2	10YR 5/6	60:40 RATIO	SANDY CLAY
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol		<input type="checkbox"/> Concretions			
<input type="checkbox"/> Histic Epipedon		<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soil			
<input type="checkbox"/> Sulfidic Odor		<input type="checkbox"/> Organic Streaking in Sandy Soils			
<input type="checkbox"/> Aquic Moisture Regime		<input type="checkbox"/> Listed on Local Hydric Soils List			
<input type="checkbox"/> Reducing Conditions		<input type="checkbox"/> Listed on National Hydric Soils List			
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors		<input type="checkbox"/> Other (Explain in Remarks)			
Remarks: MARGINALLY HYDROMORPHIC SOIL COLORS LIKELY REFLECT THE CONDITION OF THE SOILS BEFORE DISTURBANCE FROM CONSTRUCTION OF ADJOINING ROADWAY AND RAILROAD. THEY DO NOT LIKELY REFLECT CURRENT HYDROLOGICAL CONDITION.					

WETLAND DETERMINATION

<table style="width: 100%;"> <tr> <td>Hydrophytic Vegetation Present?</td> <td style="text-align: center;">(Circle) Yes <input checked="" type="radio"/> No</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td style="text-align: center;">Yes <input checked="" type="radio"/> No</td> </tr> <tr> <td>Hydric Soils Present?</td> <td style="text-align: center;"><input checked="" type="radio"/> Yes <input type="radio"/> No</td> </tr> </table>	Hydrophytic Vegetation Present?	(Circle) Yes <input checked="" type="radio"/> No	Wetland Hydrology Present?	Yes <input checked="" type="radio"/> No	Hydric Soils Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	<table style="width: 100%;"> <tr> <td>Is this Sampling Point Within a Wetland?</td> <td style="text-align: center;">(Circle) Yes <input checked="" type="radio"/> No</td> </tr> </table>	Is this Sampling Point Within a Wetland?	(Circle) Yes <input checked="" type="radio"/> No
Hydrophytic Vegetation Present?	(Circle) Yes <input checked="" type="radio"/> No								
Wetland Hydrology Present?	Yes <input checked="" type="radio"/> No								
Hydric Soils Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No								
Is this Sampling Point Within a Wetland?	(Circle) Yes <input checked="" type="radio"/> No								
Remarks: WETLAND HYDROLOGY PARAMETER NOT MET. WATER LIKELY ACCUMULATES BRIEFLY IN THIS ROADSIDE DITCH FOLLOWING HEAVY RAINFALL BUT DOES NOT APPEAR TO PERSIST LONG ENOUGH DURING THE GROWING SEASON TO CREATE WETLAND CONDITIONS.									

Classification: UPLAND (U)

DATA POINT #4
BRANDYWINE DRMO SITE
WETLAND DELINEATION DATA FORM, PAGE 1
1987 MANUAL

Project/Site: <u>BRANDYWINE DRMO SITE</u> Applicant: <u>ANDREWS AIR FORCE BASE</u> Investigators: <u>J. PEYTON DOUB, PWS</u>	Date: <u>9/14/98</u> County: <u>PRINCE GEORGES</u> State: <u>MARYLAND</u>
Do Normal Circumstances exist on the site?: <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)?: <input checked="" type="radio"/> Yes <input type="radio"/> No Is the area a potential Problem Area?: <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse)	Community ID: <u>WET MEADOW</u> Transect ID: <u>N/A</u> Plot ID: <u>4</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
POLYGONUM AMPHIBIUM	H	OBL	LIQUIDAMBAR STYRACIFLUA	SH	FAC
JUNCUS EFFUSUS	H	FACW +	TYPHA LATIFOLIA	H	OBL
LEERSIA ORYZOIDES	H	OBL			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100

Remarks: HYDROPHYTIC VEGETATION

HYDROLOGY

Recorded Data (Described in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12 inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>0</u> (in.) Depth to Free Water in Pit: <u>6</u> (in.) Depth in Saturated Soil: <u>0</u> (in.)	
Remarks: SATURATED TO SURFACE DESPITE DROUGHT CONDITIONS AT TIME OF SURVEY.	

**DATA POINT #4
BRANDYWINE DRMO SITE
WETLAND DELINEATION DATA FORM, PAGE 2
1987 MANUAL**

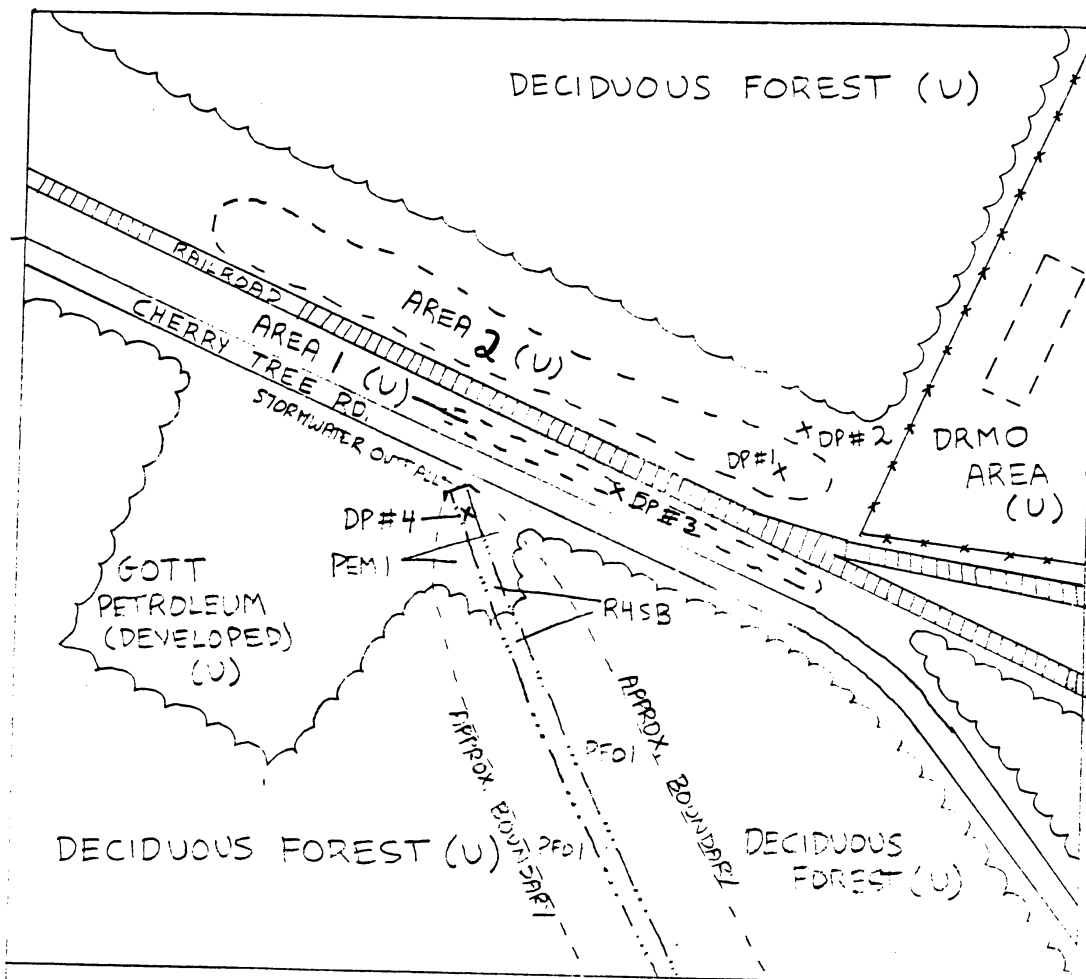
Soil

Map Unit Name (Series and Phase):		LEONARDTOWN SILT LOAM, 0-2% SLOPES		Drainage Class:	POORLY DRAINED
Taxonomy (subgroup):		ULTISOLS: TYPIC FRAGIAQUULTS		Field Observations Confirmed Mapped Type?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Profile Description:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture Concretions, Structure, etc,
0-3	A	10YR 4/2	NONE	N/A	LOAM
3-18 +	B	10YR 6/1	10YR 6/4	10%, AS STREAKS	SILTY CLAY
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol		<input type="checkbox"/> Concretions			
<input type="checkbox"/> Histic Epipedon		<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soil			
<input type="checkbox"/> Sulfidic Odor		<input type="checkbox"/> Organic Streaking in Sandy Soils			
<input checked="" type="checkbox"/> Aquic Moisture Regime		<input type="checkbox"/> Listed on Local Hydric Soils List			
<input type="checkbox"/> Reducing Conditions		<input type="checkbox"/> Listed on National Hydric Soils List			
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors		<input type="checkbox"/> Other (Explain in Remarks)			
Remarks: HYDRIC SOILS. ,					

WETLAND DETERMINATION

<table style="width: 100%;"> <tr> <td style="width: 60%;">Hydrophytic Vegetation Present?</td> <td style="width: 10%; text-align: center;">(Circle)</td> <td style="width: 30%;"></td> </tr> <tr> <td></td> <td style="text-align: center;"><input checked="" type="radio"/> Yes</td> <td style="text-align: center;"><input type="radio"/> No</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td style="text-align: center;"><input checked="" type="radio"/> Yes</td> <td style="text-align: center;"><input type="radio"/> No</td> </tr> <tr> <td>Hydric Soils Present?</td> <td style="text-align: center;"><input checked="" type="radio"/> Yes</td> <td style="text-align: center;"><input type="radio"/> No</td> </tr> </table>	Hydrophytic Vegetation Present?	(Circle)			<input checked="" type="radio"/> Yes	<input type="radio"/> No	Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<table style="width: 100%;"> <tr> <td style="width: 60%;">Is this Sampling Point Within a Wetland?</td> <td style="width: 10%; text-align: center;">(Circle)</td> <td style="width: 30%;"></td> </tr> <tr> <td></td> <td style="text-align: center;"><input checked="" type="radio"/> Yes</td> <td style="text-align: center;"><input type="radio"/> No</td> </tr> </table>	Is this Sampling Point Within a Wetland?	(Circle)			<input checked="" type="radio"/> Yes	<input type="radio"/> No
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Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No																	
Is this Sampling Point Within a Wetland?	(Circle)																		
	<input checked="" type="radio"/> Yes	<input type="radio"/> No																	
Remarks: ALL THREE PARAMETERS CLEARLY MET.																			

Classification: PALUSTRINE EMERGENT WETLAND, PERSISTENT (PEM1). WEAKLY DEFINED CHANNEL IN CENTER OF THIS AREA MAY BE CONSIDERED AS RIVERINE INTERMITTENT STREAMBED (R4SB).



ATTACHMENT C
WETLAND DELINEATION
BRANDYWINE DRMO SITE



DP : DATA POINT (FOR WETLAND DELINEATION)

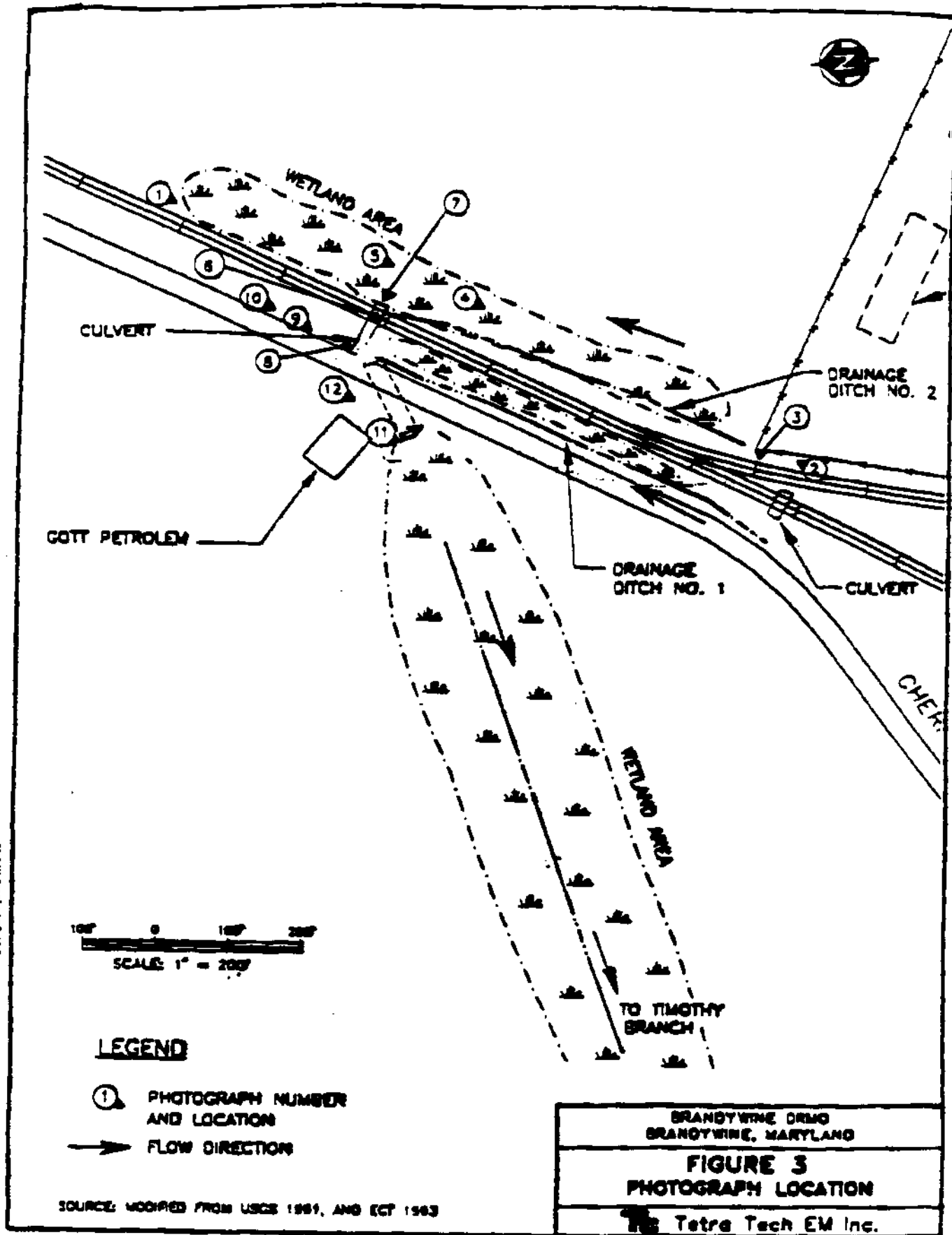
U : UPLAND (NOT A WETLAND)

PEM1 : PALUSTRINE EMERGENT WETLAND, PERSISTENT

PFO1 : PALUSTRINE FORESTED WETLAND, BROAD-LEAVED DECIDUOUS

RHSB : RIVERINE INTERMITTENT STREAMBED

NOT TO SCALE



APPENDIX F

**LIST OF STATE OF MARYLAND SITES IN THE VOLUNTARY CLEANUP
PROGRAM**

VOLUNTARY CLEANUP PROGRAM

APPLICANTS AND ACREAGE

APPLICANT(S)	SITE LOCATION	ACREAGE
Applicant #1: CSX Transportation, Inc. 301 West Bay Street Jacksonville, Florida 32202 Applicant #2: ARC Cumberland LLC 950 East Paces Ferry Road Suite 2575 Atlanta, Georgia 30326	CSX Former Bolt and Forge Site Williams St. & Maryland Avenue Cumberland, Allegany County Application is for a 11.46-acre portion of the 33.0-acre parcel	33.0 (total)
1301 Howard LLC c/o Himmelrich Associates 1201 South Sharp Street, Suite 100 Baltimore, Maryland 21230	Parker Metal Decorating Property 1301 South Howard Street Baltimore City	0.73
PPG Industries, Inc. Glass Technology Center Guys Run Road Pittsburgh, Pennsylvania 15238	Former PPG Works No. 7 State Route 51 South PPG Road Cumberland, Allegany County	66.0
The Can Company LLC c/o Struever Bros. Eccles & Rouse, Inc. 519 North Charles Street Baltimore, Maryland 21201	American Can Company 2400 Boston Street Baltimore City	4.3
The Valspar Corporation 1101 Third Street S. Minneapolis, Minnesota 55415	Engineered Polymer Solutions, Inc. 16414 Industrial Lane Interstate Industrial Park Williamsport, Washington County	8.5
Port Liberty Industrial Center, LP c/o Struever Bros. Eccles & Rouse, Inc. 519 North Charles Street Baltimore, Maryland 21201	Port Liberty Industrial Center 1800-1900 Frankfurst Avenue Baltimore City	20.0
Auto Placement Center, Inc. 12404 Stafford Lane Bowie, Maryland 20715	G & H Partnership Property 1177 Patuxent Road Gambrills, Anne Arundel	38.25
Baltimore City Dept. of Housing and Community Development 417 East Fayette Street Baltimore, Maryland 21202	Barre Station (Koppers Site) Bounded by Scott, McHenry and Poppleton Streets Baltimore City	8.6
Carrolltown Development Co., LLC P.O. Box 701 Eldersburg, Maryland 21784	Carrolltown Center 6400 Ridge Road Eldersburg, Carroll County	31.78
HMC Limited Partnership c/o Platt & Company, Inc. Village Square One, Suite 156 Baltimore, Maryland 21210	Baymeadow Property 6711 Baymeadow Road Glen Burnie, Anne Arundel County	11.95

Alltrista Corporation 301 South High Street Muncie, Indiana 47305-2398	Baltimore Camden Yards 901 West Ostend Street Baltimore, Maryland	5.0
W.P. Ballard & Co. of Washington 1775 The Exchange, Suite 320 Atlanta, Georgia 30339	Beltsville Industrial Center 10722 Tucker Street Beltsville, Prince George's County	0.8
Industrial Properties Associates LP The Tower Companies 11501 Huff Court North Bethesda, Maryland 20895	5221 River Road Bethesda, Montgomery County	2.3
Redland Genstar, Inc. 300 East Joppa Road, Suite 200 Towson, Maryland 21286	Redland Genstar - White Marsh Plant 10300 Pulaski Highway White Marsh, Baltimore County	103.9
Applicant #1: G.A.T.H., LLP c/o Thomas Curtis 975 Farm Haven Drive Rockville, Maryland 20852 Applicant #2: DMMJ Limited Partnership c/o Marshall Investment Group 2141 Wisconsin Avenue, NW Washington, D.C. 20007	5450 Butier Road Bethesda, Montgomery County	2.78
Riverdale Plaza Shopping Center LP c/o General Partnership Corporation 5454 Wisconsin Avenue, Suite 1265 Chevy Chase, Maryland 20815	5601-5851 Riverdale Road and 5603 Kenilworth Avenue Riverdale, Prince George's County	11.0
Maryland Port Administration World Trade Center, 20 th Floor 401 East Pratt Street Baltimore, Maryland 21202-3041	Kurt Iron & Metal, Inc. 3000 Childs Street Baltimore City	10.44
Glenn Springs Holdings, Inc. 1795 Baseline Road Grand Island, New York 14072-2010	Occidental Chemical Corporation Route 7 and Firestone Road Perryville, Cecil County	125.65
Columbia National Real Estate Finance, Inc. 120 East Baltimore Street, Suite 1804 Baltimore, Maryland 21202	Point Breeze Business Center 2400, 2500, 2501, and 2510 Broening Highway Baltimore City (Application A)	54.34
Columbia National Real Estate Finance, Inc. 120 East Baltimore Street, Suite 1804 Baltimore, Maryland 21202	Point Breeze Business Center 2300 Broening Highway Baltimore City Application B	15.69
The Hardaway Company P.O. Box 1360 Columbus, Georgia 31902-1360	325 Lokus Road Odenton, Maryland Anne Arundel County	2.59

Inland Leidy, Inc. 2225 Evergreen Street Baltimore, Maryland 21216	2225 Evergreen Street Baltimore City	1.0
Columbia National Real Estate Finance, Inc. 120 East Baltimore Street, Suite 1804 Baltimore, Maryland 21202	Point Breeze Business Center 2200 Broening Highway Building 70 Baltimore City Application C	14.0
LaSalle Advisors Capital Management, Inc. 100 East Pratt Street Baltimore, Maryland 21202	Yorktowne Plaza Shopping Center 100 Block of Cranbrook Road (Cranbrook and York roads) Cockeysville, Baltimore County	10.5
England Family L.L.C. 231 Derwood Circle Rockville, Maryland 20850	Former Maryland Wood Preserving 235 Derwood Circle Rockville, Montgomery County	2.11
Southern Galvanizing Company 1620 Bush Street Baltimore, Maryland 21230	1600 - 1606 Bush Street Baltimore City	0.42
Emerson Electric Co. 8000 W. Florissant St. Louis, Missouri 63136-8506	Kop-Flex 7565 Harmons Road Hanover, Anne Arundel County	25.0
Caton Land LLLP c/o Siena Development Corporation 12011 Guilford Road, Suite 101 Annapolis Junction, Maryland 20701	40 West Auto Park Inc. 5525 Baltimore National Pike Baltimore, Baltimore County 21229	3.6
TOTAL ACERAGE		614.23

APPENDIX G
EPA EXTENSION LETTER



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

SEP 15 1998

Brigadier General Gilbert J. Regan
Staff Judge Advocate
402 Scott Drive Unit 3L2
Scott AFB, IL 62225-5305

Dear Brigadier General Regan:

I am writing in response to your letter of August 28, 1998, requesting an extension of the public comment period for the Andrews Air Force Base and Brandywine Defense Reutilization and Marketing Office sites, Maryland. These sites were proposed to the National Priorities List (NPL) on July 28, 1998. EPA has learned that the documentation records for these sites contained minor errors in citing references and were incomplete once the public comment period began. Because of the extra time it took to compile a complete copy of the documentation records, we will grant a 2-week extension of the comment period for both of these sites. Please note that this extension has been granted only for the above reasons, as the Agency has found that your concerns regarding data quality and the time and effort expended in reviewing "the sheer volume of materials" in documentation records do not warrant an extension.

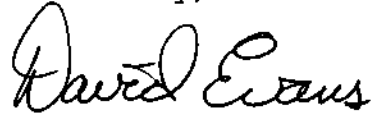
EPA will evaluate all comments that are received on or before October 12, 1998. If you would like to submit any comments, please do so within this time frame. Please send one original and three copies of comments to the following address:

Docket Coordinator, Headquarters
U.S. EPA CERCLA Docket Office, Mail Code 5201G
401 M Street, SW
Washington, DC 20460

All comments will be addressed, and their impacts on the score calculated, before a final decision is reached on whether the Andrews Air Force Base and Brandywine Defense Reutilization and Marketing Office sites should be placed on the NPL. EPA's responses to all comments regarding these sites will be provided

in a "Support Document" which will be available to the public at the time a final decision is made. I hope this addresses your concerns.

Sincerely,

A handwritten signature in cursive script that reads "David Evans". The signature is written in dark ink and is positioned below the word "Sincerely,".

David Evans, Director
State, Tribal & Site
Identification Center